

terminalibus spicatis; pedunculis brevibus obscuris ca. 1 cm. longis glabris nitidulis; spicis 6—8 cm. longis dense multifloris.

Herb with a short woody xylopodium; stems numerous from the apex of the xylopodium, erect, very slender, 20—25 cm. tall, glabrous, stramineous in drying, rather shiny, unbranched; internodes uniformly very short, 1—1.5 cm. long or less; leaves numerous, the lower opposite or subopposite, the upper alternate, all linear, erect or ascending, 1—2 cm. long, 1—2 mm. wide, apiculate-acute at the apex, sessile, entire, glabrous, apparently somewhat fleshy when fresh, punctulate, the margins somewhat revolute; inflorescence terminal, spicate, simple; peduncles short and indistinct, about 1 cm. long, resembling the stems in all respects, glabrous, shiny; spikes 6—8 cm. long, many-flowered, the rachis slender, glabrous, not sculptured, the flowers imbricate, rather loosely ascending, the lowermost opening first; calyx tubular, herbaceous, 7 mm. long, 1 mm. wide, very minutely pilosulous on at least the 4 longitudinal ribs outside, the rim minutely 4-apiculate, the teeth minute, but one decidedly longer than the others; corolla hypocrateriform, lilac, the tube 1 cm. long, curvate, about 1 mm. wide at the middle and base, ampliate at the apex, the limb about 8 mm. (or more) wide; stamens 2, inserted half way up the corolla-tube, included; filaments very short, about 0.5 mm. long, glabrous; anthers 2-celled, the thecae widely divergent, each about 1 mm. long; staminodes tabescent; pistil 1, about 1 cm. long, reaching the mouth of the corolla-tube, glabrous; ovary elongate, about 1 mm. long, glabrous.

The type of this most distinct species was collected by Gert Hatschbach, Lyman B. Smith, and E. Ayensu (no. 29098) in a rocky field at 1350 meters altitude at Rod. Br. 259, in the municipality of Gouveia, Minas Gerais, Brazil, on January 21, 1972, and is deposited in my personal herbarium at Plainfield, New Jersey.

ADDITIONAL NOTES ON THE ERIOCAULACEAE. XXXIX

Harold N. Moldenke

ERIOCAULACEAE Lindl.

Additional bibliography: Paxt., Pock. Bot. Dict., ed. 1, 124 (1840) and ed. 2, 124. 1849; Benner, Fl. Bucks Co. 115—116. 1932; Burkill, Dict. Econ. Prod. Malay Penins., ed. 1, 1: 938. 1935; Sastri, Wealth India 3: 188. 1952; N. D. Simpson, Bibl. Ind. Brit. Fl. 15. 1960; Ramaswamy, Bull. Bot. Soc. Beng. 21: 89 & 90. 1967; Bate-Smith, Journ. Linn. Soc. Lond. Bot. 60: 334. 1968; D. McClintock, Proc. Bot. Soc. Brit. Isl. 7: 509. 1968; E. C. Wallace, Proc. Bot. Soc. Brit. Isl. 7: 566. 1969; Takhtajan, Flow. Pl. Orig. & Disp. 238. 1969; S. P. & R. N. Banerjee, Bull. Bot. Soc. Beng. 23: 168 & 170. 1969; Cherian & Pataskar, Bull. Bot. Surv.

India 11: 33. 1969; Deb, Sengupta, & Malick, Bull. Bot. Surv. India 11: 210. 1969; Singh, Bull. Bot. Surv. India 11: 19. 1969; Balgooy, Blumea Suppl. 6: [Pl. Geogr. Pacif.] 75, 170, & 219. 1971; Hellquist, Rhodora 73: 256. 1971; Gantz, Naturalist South. Fla. 148, 149, & 254. 1971; Moldenke, Phytologia 24: 333—358. 1972; A. L. Moldenke, Phytologia 24: 359. 1972; Thieret, La. Soc. Hort. Res. 13: 2, 13, 18, & 41. 1972.

Takhtajan (1969) asserts that the Order 87, Eriocaulales, probably had a common origin with the Commelinales. It includes only the family Eriocaulaceae. He classifies it in the Superorder 4, Commelinanae, Subclass 3, Commelinidae, Class Liliatae [or Monocotyledones], and Division Magnoliophyta [or Angiospermae].

ERIOCAULON Gron.

Additional bibliography: Paxt., Pock. Bot. Dict., ed. 1, 124 (1840) and ed. 2, 124. 1849; Benner, Fl. Bucks Co. 115—116. 1932; Burkill, Dict. Econ. Prod. Malay Penins., ed. 1, 1: 938. 1935; Sastri, Wealth India 3: 188. 1952; N. D. Simpson, Bibl. Ind. Brit. Fl. 15. 1960; Ramaswamy, Bull. Bot. Soc. Beng. 21: 89 & 90. 1967; Bate-Sm., Journ. Linn. Soc. Lond. Bot. 60: 334. 1968; D. McClintock, Proc. Bot. Soc. Brit. Isls. 7: 509. 1968; E. C. Wallace, Proc. Bot. Soc. Brit. Isls. 7: 566. 1969; Cherian & Pataskar, Bull. Bot. Surv. India 11: 33. 1969; Deb, Sengupta, & Malick, Bull. Bot. Surv. India 11: 210. 1969; Singh, Bull. Bot. Surv. India 11: 19. 1969; Balgooy, Blumea Suppl. 6: [Pl. Geogr. Pacif.] 75, 170, & 219. 1971; Hellquist, Rhodora 73: 256. 1971; Gantz, Naturalist South. Fla. 148, 149, & 254. 1971; Moldenke, Phytologia 24: 337—358. 1972; A. L. Moldenke, Phytologia 24: 359. 1972; Thieret, La. Soc. Hort. Res. 13: 2, 13, & 41. 1972.

ERIOCAULON AQUATICUM (J. Hill) Druce

Additional bibliography: Paxt., Pock. Bot. Dict., ed. 1, 124 (1840) and ed. 2, 124. 1849; Hare, Brit. Assoc. Adv. Sci. Dundee Rep. 1: 108. 1939; Hare, Proc. Linn. Soc. Lond. 157: 134. 1946; N. D. Simpson, Bibl. Ind. Brit. Fl. 15. 1960; Bate-Sm., Journ. Linn. Soc. Lond. Bot. 60: 334. 1968; D. McClintock, Proc. Bot. Soc. Brit. Isls. 7: 509. 1968; E. C. Wallace, Proc. Bot. Soc. Brit. Isls. 7: 566. 1969; Moldenke, Phytologia 24: 342. 1972; A. L. Moldenke, Phytologia 24: 359. 1972.

ERIOCAULON ATRATUM var. MAJOR Thwaites

Additional synonymy: Eriocaulon caulescens Hook. f. ex Ruhl. in Engl., Pflanzenreich 13 (4-30): 69 & 285, in syn. 1903 [not E. caulescens Kunth, 1971, nor Poir., 1813, nor Salzm., 1959, nor Willd., 1841].

Additional bibliography: Moldenke, Phytologia 24: 343—344. 1972.

ERIOCAULON AUSTRALE R. Br.

Additional bibliography: Paxt., Pock. Bot. Dict., ed. 1, 124

(1840) and ed. 2, 124. 1849; Moldenke, *Phytologia* 24: 344—345. 1972.

ERIOCAULON BUCHANANII Ruhl.

Additional bibliography: Moldenke, *Phytologia* 24: 348. 1972.

Lewalle describes this as a tufted plant, with basal leaves and gray inflorescences. He found it growing in a swamp at 850 m. altitude, in flower in June.

Additional citations: BURUNDI: Lewalle 6053 (Z).

ERIOCAULON CINEREUM R. Br.

Additional bibliography: Deb, Sengupta, & Malick, *Bull. Bot. Surv. India* 11: 210. 1969; Singh, *Bull. Bot. Surv. India* 11: 19. 1969; Thieret, *La. Soc. Hort. Res.* 13: 2 & 13. 1972; Moldenke, *Phytologia* 24: 339 & 350. 1972.

The Cook & Rix 45, distributed as E. cinereum, appears to be E. luzulaefolium Mart. instead. It is also possible that the California material cited as E. cinereum may prove to be E. luzulaefolium. Thieret (1972) records E. cinereum as naturalized in Louisiana and refers to it as the "ricefield pipewort". I have not as yet seen the material on which he bases this record and suspect that it may also prove to be E. luzulaefolium.

Podlech (1971) includes E. cinereum, as "E. Sieboldianum", in Rechinger's *Flora Iranica*, but cites only specimens from Afghanistan, so I am not at all certain that the species is actually to be included as a member of the flora of Iran. He cites Breckle A.3303, Podlech 16790, and Rasoul 392 from eastern Afghanistan. He gives the overall distribution of the species as "Afghanistan, Pamir-Alaj, Africa, India, Japonia, Sina, Australia".

Datta & Majumdar (1966) describe the species as a "Marshy herb. Head purplish. Receptacle glabrous. Sepals in male flowers 3, in female flowers 1 to 2 or 0". Deb, Sengupta, & Malick (1969) call it a "Small tufted herb, scattered in rice-fields" at 1350 meters altitude and cite Sengupta 1114. Singh (1969) found it growing in marshy places and cites his no. 25384.

ERIOCAULON COMPRESSUM Lam.

Additional & emended bibliography: C. Muhl. in Walp., *Ann.* 6: 1170 & 1171. 1861; Moldenke, *Phytologia* 24: 351. 1972; Thieret, *La. Soc. Hort. Res.* 13: 13. 1972.

Thieret (1972) calls this species "early pipewort".

ERIOCAULON DECANGULARE L.

Additional & emended bibliography: Bong., *Ess. Monog. Erioc.* 2, 4, 8, & 30. 1831; Part., *Pock. Bot. Dict.*, ed. 1, 124 (1840) and ed. 2, 124. 1849; Moldenke, *Phytologia* 24: 353—354. 1972; Thieret, *La. Soc. Hort. Res.* 13: 13. 1972.

ERIOCAULON ELEGANTULUM Engl., *Abh. Preuss. Akad. Wiss.* 1894: 14. 1894.

Additional bibliography: Moldenke, *Phytologia* 19: 335. 1970; Moldenke, *Fifth Summ.* 1: 226, 237, 239, 241, & 251 (1971) and 2: 935. 1971.

ERIOCAULON ELENORAE Fyson, *Journ. Indian Bot.* 1: 50 & 51, fig. 5 [as "eleanorae"], *hyponym* (1919) and 2: 316—317, pl. 35. 1921.

Additional & emended bibliography: Fyson, *Journ. Indian Bot.* 1: 50, 51, & 53, fig. 5. 1919; Cherian & Pataskar, *Bull. Bot. Surv. India* 11: 33. 1969; Hocking, *Excerpt. Bot. A.* 16: 39. 1970; Moldenke, *Phytologia* 21: 273. 1971; Inamdar & Patel, *Indian Forest.* 97: 330. 1971; Moldenke, *Fifth Summ.* 1: 274 & 280 (1971) and 2: 499 & 935. 1971.

Illustrations: Fyson, *Journ. Indian Bot.* 1: 51, fig. 5. 1919.

Cherian & Pataskar (1969) describe this plant as an "Annual herb, heads white", found it to be "common" in Maharashtra, India, and cite Pataskar 101248.

ERIOCAULON ELICHRYSOIDES Bong., *Mém. Acad. Imp. Sci. St. Pétersb.*, sér. 6, 1: 631. 1831.

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970; Moldenke, *Fifth Summ.* 1: 149, 185, & 362 (1971) and 2: 502, 508, & 935. 1971.

ERIOCAULON ENSIFORME C. E. C. Fischer, *Kew Bull. Misc. Inf.* 1930: 159—160. 1930.

Additional bibliography: Moldenke, *Phytologia* 19: 38. 1969; Moldenke, *Fifth Summ.* 1: 274 (1971) and 2: 935. 1971.

ERIOCAULON EPAPILLOSUM Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 57. 1903.

Additional bibliography: Moldenke, *Phytologia* 19: 38. 1969; Moldenke, *Fifth Summ.* 1: 149 (1971) and 2: 935. 1971.

ERIOCAULON EQUISETOIDES Van Royen, *Blumea* 10: 132—133, fig. 1 E. 1960.

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970; Moldenke, *Fifth Summ.* 1: 323 & 330 (1971) and 2: 512 & 935. 1971.

ERIOCAULON ESCAPE Hansen, *Dansk Bot. Arkiv* 27: [el]—33, fig. 1 & 2. 1969.

Bibliography: Hansen, *Dansk Bot. Arkiv* 27: [31]—33, fig. 1 & 2 a—c. 1969; Anon., *Biol. Abstr.* 53 (9): B.A.S.I.C. S.87. 1972; Shehata, *Biol. Abstr.* 53: 4689. 1972.

Illustrations: Hansen, *Dansk Bot. Arkiv* 27: 32 & 33, fig. 1 & 2 a—c. 1969.

This species is based on the following collection: "Holotypus die 24 Nov. anni 1958 1300 m supra mare in loco humido arenoso pineti aperti graminosi montis tabularii thailandici Poo Kradeng sub numero SLH 6178 lectus, in Museo Botanico Hauniensi depositus." Hansen (1969) notes that the species is "Near E. echinulatum but differs considerably in lacking the scape and in the much larger

measures in the floral elements."

ERIOCAULON EURYPEPLON Körn., *Linnaea* 27: 685—686. 1856.

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970; Moldenke, *Fifth Summ.* 1: 274 (1971) and 2: 935. 1971.

ERIOCAULON EXSERTUM Satake in Hara, *Univ. Mus. Univ. Tokyo Bull.* 2: 156, fig. 9. 1971.

Bibliography: Satake in Hara, *Univ. Mus. Univ. Tokyo Bull.* 2: 156, fig. 9. 1971; Moldenke, *Phytologia* 23: 422. 1972.

Illustrations: Satake in Hara, *Univ. Mus. Univ. Tokyo Bull.* 2: 156, fig. 9. 1971.

This species is known thus far only from Nepal. The type locality and collection are described by Satake (1971) as "Nepal. Ghorwa-Sanichare, 300—200 m (H. Hara, H. Kanai, S. Kurosawa, G. Murata & M. Togashi, Dec. 10, 1963 -- holotype in TI)" and comments that "This species is distinguished from Eriocaulon truncatum in having two male sepals connate at the base, acute female sepals, and female petals provided with an exerted gland at the apex."

ERIOCAULON FABERI Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 95. 1903.

Additional bibliography: Moldenke, *Phytologia* 19: 39. 1969; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 935. 1971.

ERIOCAULON FENESTRATUM Bojer ex Körn., *Linnaea* 27: 671. 1856.

Additional bibliography: Moldenke, *Phytologia* 21: 428. 1971; Moldenke, *Fifth Summ.* 1: 261 & 264 (1971) and 2: 500 & 935. 1971.

ERIOCAULON FILIFOLIUM Hand.-Mazz., *Sinensia* 7: 619. 1936.

Additional bibliography: Moldenke, *Phytologia* 18: 89—90. 1969; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 935. 1971.

ERIOCAULON FISTULOSUM R. Br., *Prodr. Fl. Nov. Holl.*, pr. 1, 1: 255. 1810.

Additional bibliography: Moldenke, *Phytologia* 20: 11. 1970; Moldenke, *Fifth Summ.* 1: 346 (1971) and 2: 616 & 935. 1971.

ERIOCAULON FLUMINEUM Moldenke, *Phytologia* 3: 411—412. 1951.

Additional bibliography: Moldenke, *Phytologia* 18: 90. 1969; Moldenke, *Fifth Summ.* 1: 261 (1971) and 2: 935. 1971.

ERIOCAULON FLUVIATILE Trimen, *Journ. Bot.* 23: 270. 1885.

Additional bibliography: Fyson, *Journ. Indian Bot.* 1: 52 & 53. 1919; Moldenke, *Phytologia* 20: 407. 1970; Moldenke, *Fifth Summ.* 1: 280 (1971) and 2: 935. 1971.

ERIOCAULON FRIESIORUM Bullock, *Kew Bull. Misc. Inf.* 1932: 507. 1932.

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970;

Moldenke, Fifth Summ. 1: 241 (1971) and 2: 501 & 935. 1971.

ERIOCAULON FULIGINOSUM C. Wright ex Griseb., Cat. Pl. Cub. 226. 1866.

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970; Moldenke, Fifth Summ. 1: 81, 96, & 98 (1971) and 2: 511, 513, 515, 518, & 935. 1971.

ERIOCAULON FULVUM N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8: 248. 1901.

Additional bibliography: Moldenke, *Phytologia* 18: 92. 1969; Moldenke, Fifth Summ. 1: 214, 216, & 222 (1971) and 2: 935. 1971.

ERIOCAULON FUSIFORME Britton & Small in N. L. Britton, Bull. Torrey Bot. Club 44: 32. 1917.

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970; Moldenke, Fifth Summ. 1: 98 (1971) and 2: 935. 1971.

ERIOCAULON GAMELEI C. E. C. Fischer, Kew Bull. Misc. Inf. 1930: 160--161. 1930.

Additional bibliography: Moldenke, *Phytologia* 19: 40. 1969; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 935. 1971.

ERIOCAULON GIBBOSUM Körn., *Linnaea* 27: 600. 1856.

Additional bibliography: Moldenke, *Phytologia* 21: 428. 1971; Hocking, Excerpt. Bot. A.18: 444. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 501 & 935. 1971.

Additional citations: BRAZIL: Mato Grosso: Irwin, Souza, Grear, & Reis dos Santos 16981 (N).

ERIOCAULON GIBBOSUM var. *LONGIFOLIUM* Körn. in Mart., Fl. Bras. 3 (1): 489--490. 1863.

Additional bibliography: Moldenke, *Phytologia* 21: 273. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 501, 935, & 968. 1971.

ERIOCAULON GIBBOSUM var. *MATTOGROSSENSE* Ruhl. in Pilg., Engl. Bot. Jahrb. 30: 146--147. 1901.

Additional bibliography: Moldenke, *Phytologia* 19: 41. 1969; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 935. 1971.

ERIOCAULON GIBBOSUM f. *VIVIPARUM* Moldenke, *Phytologia* 18: 342. 1969.

Additional bibliography: Moldenke, *Phytologia* 20: 408. 1970; Hocking, Excerpt. Bot. A.18: 444. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 935. 1971.

ERIOCAULON GILGIANUM Ruhl. in Engl., Bot. Jahrb. 27: 84. [April 17] 1899.

Additional bibliography: Moldenke, *Phytologia* 20: 408. 1970; Moldenke, Fifth Summ. 1: 237, 243, 248, 261, & 475 (1971) and 2: 496 & 935. 1971.

ERIOCAULON GLABERRIMUM Miyabe & Satake, Act. Phytotax. & Geobot. Kyoto 13: 280—281. 1943.

Additional & emended bibliography: Ohwi, Fl. Jap., [ed. Jap.], 263, 267, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [ed. Engl.], 270. 1965; Moldenke, Phytologia 20: 408. 1970; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 494, 501, & 935. 1971.

ERIOCAULON GLAUDESCENS W. Griff., Notul. 3: 116. 1851.

Additional bibliography: Moldenke, Phytologia 18: 98—99. 1969; Moldenke, Fifth Summ. 1: 375 (1971) and 2: 935. 1971.

ERIOCAULON GLAUCUM W. Griff., Notul. 3: 113—114. 1851.

Additional bibliography: Moldenke, Phytologia 20: 408. 1970; Moldenke, Fifth Summ. 1: 283 (1971) and 2: 935. 1971.

ERIOCAULON GLAZIOVII Ruhl. in Engl., Pflanzenreich 13 (4-30): 51. 1903.

Additional bibliography: Moldenke, Phytologia 20: 408. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 936. 1971; Moldenke, Phytologia 24: 356. 1972.

ERIOCAULON GOMPHRENOIDES Kunth, Enum. Fl. 3: 548. 1841.

Additional bibliography: Moldenke, Phytologia 20: 11. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 936. 1971.

ERIOCAULON GRAPHITINUM F. Muell. & Tate, Trans. Roy. Soc. S. Austral. 19: 82. 1895.

Additional bibliography: Moldenke, Phytologia 20: 408. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 501 & 936. 1971.

ERIOCAULON GREGATUM Körn., Linnaea 27: 606—607. 1856.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Moldenke, Phytologia 20: 408. 1970; Moldenke, Fifth Summ. 1: 274 & 289 (1971) and 2: 936. 1971.

ERIOCAULON GRISEUM Körn., Linnaea 27: 599 (1856) and in Mart., Fl. Bras. 3 (1): 479, pl. 60, fig. 3. 1863.

Additional bibliography: Moldenke, Phytologia 20: 408. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 936. 1971.

ERIOCAULON GUADALAJARENSE Ruhl. in Engl., Pflanzenreich 13 (4-30): 60. 1903.

Additional bibliography: Moldenke, Phytologia 20: 409. 1970; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 936. 1971.

ERIOCAULON GUYANENSE Körn. in Mart., Fl. Bras. 3 (1): 478. 1863.

Additional & emended bibliography: Körn. in Mart., Fl. Bras. 3 (1): 288, 291, 475, 478, & 507. 1863; J. A. Steyerl., Act. Bot. Venez. 1: 195. 1966; Moldenke, Phytologia 20: 409. 1970; Moldenke, Fifth Summ. 1: 116, 123, 129, 133, & 149 (1971) and 2: 502, 778, & 936. 1971.

ERIOCAULON HAMILTONIANUM Mart. in Wall., Pl. Asiat. Rar. 3: 29. .
1832.

Additional synonymy: *Eriocaulon hamiltonianum* Heyne, in herb.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919;
Moldenke, Phytologia 20: 409. 1970; Moldenke, Fifth Summ. 1: 274
& 295 (1971) and 2: 497, 502, 508, & 936. 1971.

Recent collectors have encountered this plant growing at 50 m.
altitude, flowering and fruiting in November.

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke
5009 (Ac).

ERIOCAULON HAMILTONIANUM var. *MINIMUM* Fyson, Journ. Indian Bot. 2:
313 [as "minima"]. 1921.

Additional bibliography: Moldenke, Phytologia 18: 106. 1969;
Moldenke, Fifth Summ. 1: 274 (1971) and 2: 502 & 936. 1971.

ERIOCAULON HAMILTONIANUM var. *MINOR* Fyson, Journ. Indian Bot. 2:
313. 1921.

Additional bibliography: Moldenke, Phytologia 18: 178. 1969;
Moldenke, Fifth Summ. 1: 274 (1971) and 2: 936. 1971.

ERIOCAULON HANANOEGOENSE Masamune, Mem. Fac. Sci. Agr. Taihoku
Univ. 11, Bot. 4: 537—538. 1934.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.],
263, 266—267, & 1296. 1953; Koyama in Ohwi, Fl. Ja., [Engl. ed.],
270. 1965; Moldenke, Phytologia 20: 409. 1970; Moldenke, Fifth
Summ. 1: 312 (1971) and 2: 494, 502, & 936. 1971.

ERIOCAULON HAYATANUM Koyama, Philip. Journ. Sci. 84: 369—370, pl.
2, fig. 3, & pl. 5, fig. B 1—6, 11, & 12. 1956.

Additional bibliography: Moldenke, Phytologia 18: 178. 1969;
Moldenke, Fifth Summ. 1: 300 (1971) and 2: 936. 1971.

ERIOCAULON HELEOCHARIOIDES Satake, Journ. Jap. Bot. 15: 627—628.
1939.

Emended synonymy: *Eriocaulon heleocharoides* Satake ex Koyama in
Ohwi, Fl. Jap., [Engl. ed.], 267. 1965.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.],
262, 264, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266
& 267. 1965; Moldenke, Phytologia 20: 409—410. 1970; Moldenke,
Fifth Summ. 1: 309 (1971) and 2: 502 & 936. 1971.

ERIOCAULON HENRYANUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 86.
1903.

Additional bibliography: Moldenke, Phytologia 20: 410. 1970;
Moldenke, Fifth Summ. 1: 274, 289, 295, & 301 (1971) and 2: 936.
1971.

ERIOCAULON HERZOGII Moldenke, Phytologia 19: 44. 1969.

Additional bibliography: Moldenke, Phytologia 21: 273. 1971;
Moldenke, Fifth Summ. 1: 149 (1971) and 2: 509 & 936. 1971.

xERIOCAULON HESSII Moldenke, *Phytologia* 5: 338. 1956.

Additional bibliography: Moldenke, *Phytologia* 19: 45. 1969;
Moldenke, *Fifth Summ.* 1: 243 (1971) and 2: 493 & 936. 1971.

ERIOCAULON HETEROCHITON Körn. in *Miq.*, *Ann. Mus. Bot. Lugd. Bat.*
3: 240. 1867.

Additional bibliography: Moldenke, *Phytologia* 19: 337. 1970;
Moldenke, *Fifth Summ.* 1: 261 (1971) and 2: 936. 1971.

ERIOCAULON HETEROCHITON var. *ACUMINATUM* Moldenke, *Phytologia* 3:
412--413. 1951.

Additional bibliography: Moldenke, *Phytologia* 18: 111--112.
1969; Moldenke, *Fifth Summ.* 1: 261 (1971) and 2: 936. 1971.

ERIOCAULON HETERODOXUM Moldenke in Maguire & al., *Bull. Torrey*
Bot. Club 75: 194--195. 1948.

Additional bibliography: Moldenke, *Phytologia* 20: 410. 1970;
Moldenke, *Fifth Summ.* 1: 129 (1971) and 2: 936. 1971.

ERIOCAULON HETEROGYNUM F. Muell., *Fragm.* 1: 93--94. 1859.

Additional bibliography: Moldenke, *Phytologia* 19: 338. 1970;
Moldenke, *Fifth Summ.* 1: 336 & 346 (1971) and 2: 936. 1971.

ERIOCAULON HETEROLEPIS Steud., *Syn. Pl. Glum.* 2: [Cyp.] 271. 1855.

Additional bibliography: Hocking, *Excerpt. Bot. A.* 16: 39.
1970; Moldenke, *Phytologia* 21: 428. 1971; Moldenke, *Fifth Summ.* 1:
274 (1971) and 2: 502 & 936. 1971.

Ramamoorthy describes this plant as "common tufted herb with
basal leaves, the flowers blackish-white, in marshes near paddy-
fields" and found it flowering and fruiting in January.

Ruhland (1903) erroneously cites the original publication of
this species' name by Steudel to page "231" instead of 271.

Additional citations: INDIA: Mysore: Ramamoorthy HFP.1311 (W).

ERIOCAULON HETEROLEPIS var. *NIGRICANS* Körn. in *Miq.*, *Ann. Mus.*
Bot. Lugd. Bat. 3: 239. 1867.

Additional bibliography: Moldenke, *Phytologia* 20: 410. 1970;
Moldenke, *Fifth Summ.* 1: 324 (1971) and 2: 936. 1971.

ERIOCAULON HETEROMALLUM Bong., *Mém. Acad. Imp. Sci. St. Pétersb.*,
sér. 6, 1: 626. 1831.

Additional bibliography: Moldenke, *Phytologia* 20: 12. 1970;
Moldenke, *Fifth Summ.* 1: 149 (1971) and 2: 936. 1971.

ERIOCAULON HETEROPEPLON Alv. *Silv.*, *Fl. Serr. Min.* 34, pl. 11.
1908.

Additional bibliography: Moldenke, *Phytologia* 20: 410. 1970;
Moldenke, *Fifth Summ.* 1: 149 (1971) and 2: 936. 1971.

ERIOCAULON HETEROPETALUM Ruhl. in Fedde, *Repert. Spec. Nov.* 22: 33.
1925.

Additional bibliography: Moldenke, *Phytologia* 20: 410. 1970; Moldenke, *Fifth Summ.* 1: 96 (1971) and 2: 936. 1971.

ERIOCAULON HEUDELII N. E. Br. in *Thiselt.-Dyer, Fl. Trop. Afr.* 8: 258. 1901.

Additional synonymy: *Eriocaulon heudeloti* N. E. Br. ex Hocking, *Excerpt. Bot. A.* 19: 43. 1971.

Additional bibliography: Raynal, *Adansonia*, ser. 2, 8: 100. 1968; Hocking, *Excerpt. Bot. A.* 19: 43. 1971; Moldenke, *Fifth Summ.* 1: 210, 214, 243, 246, & 253 (1971) and 2: 502 & 936. 1971; Moldenke, *Phytologia* 21: 273 (1971) and 23: 430. 1972.

ERIOCAULON HILDEBRANDTII Körn. ex Ruhl. in *Engl., Bot. Jahrb.* 27: 73. 1899.

Additional bibliography: Moldenke, *Phytologia* 19: 338. 1970; Moldenke, *Fifth Summ.* 1: 261 (1971) and 2: 936. 1971.

ERIOCAULON HIRSUTULUM Moldenke, *Résumé Suppl.* 4: 6, nom. nud. June 5, 1962; *Phytologia* 8: 387. December 10, 1962.

Additional bibliography: Moldenke, *Phytologia* 20: 410. 1970; Moldenke, *Fifth Summ.* 1: 214 (1971) and 2: 936. 1971.

ERIOCAULON HOMOTEPALUM Koyama, *Philip. Journ. Sci.* 84: 370—371, pl. 2, fig. 2, & pl. 5, fig. 6. 1956.

Additional bibliography: Moldenke, *Phytologia* 18: 181. 1969; Moldenke, *Fifth Summ.* 1: 301 (1971) and 2: 936. 1971.

ERIOCAULON HONDOENSE Satake, *Bot. Mag. Tokyo* 51: 288—291, fig. 3. 1937.

Emended synonymy: *Eriocaulon miquelianum* Auct. Jap. ex Nakai & Honda, *Nov. Fl. Jap.* 6: 49 & 87, in syn. 1940 [not *E. miquelianum* Körn., 1867, nor Koeck., 1933, nor Mori, 1940]. *Eriocaulon miquelianum* sensu auct. Japon. ex Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 268, in syn. 1965.

Additional & emended bibliography: Ohwi, *Fl. Jap.*, [Jap. ed.], 262, 265, & 1296. 1953; Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 266, 268, & 269. 1965; Moldenke, *Phytologia* 20: 411. 1970; Moldenke, *Fifth Summ.* 1: 308, 309, 312, & 319 (1971) and 2: 494, 502, 503, 506, 513, & 936. 1971.

ERIOCAULON HONDOENSE var. *GRACILE* Satake ex Moldenke, *Résumé* 173 & 481. 1959.

Additional bibliography: Moldenke, *Phytologia* 18: 184. 1969; Moldenke, *Fifth Summ.* 1: 309 (1971) and 2: 936. 1971.

ERIOCAULON HONDOENSE var. *PILOSUM* Satake, *Bot. Mag. Tokyo* 51: 290. 1937.

Additional bibliography: Moldenke, *Phytologia* 20: 411. 1970; Moldenke, *Fifth Summ.* 1: 309 (1971) and 2: 502, 508, & 936. 1971.

ERIOCAULON HONDOENSE var. *STELLATUM* Satake, *Bot. Mag. Tokyo* 51:

290—291. 1937.

Additional bibliography: Moldenke, *Phytologia* 20: 411. 1970; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 503 & 936. 1971.

ERIOCAULON HONDOENSE var. STENOPETALON Koyama, *Journ. Jap. Bot.* 31: 9. 1956.

Additional bibliography: Moldenke, *Phytologia* 18: 185. 1969; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 936. 1971.

ERIOCAULON HOOKERIANUM Stapf, *Trans. Linn. Soc. Lond. Bot., ser.* 2, 4: 243. 1894.

Additional bibliography: Moldenke, *Phytologia* 21: 273. 1971; Moldenke, *Fifth Summ.* 1: 274, 296, 301, 305, 324, & 336 (1971) and 2: 494, 503, 505, & 936. 1971.

Saldanha notes that in Mysore this plant is "locally common marshy herb with white heads" and found it flowering and fruiting in August. Charoenphol and his associates encountered it in evergreen forests in Thailand, flowering and fruiting in October.

Additional citations: INDIA: Mysore: Saldanha 14710 (W).

THAILAND: Charoenphol, Larsen, & Warncke 3861 (Ac).

ERIOCAULON HOOKERIANUM var. MICROPHYLLUM Van Royen, *Nov. Guin., ser.* 2, 10: 31, fig. 2j. 1959.

Additional bibliography: Moldenke, *Phytologia* 20: 411. 1970; Moldenke, *Fifth Summ.* 1: 336 (1971) and 2: 936. 1971.

ERIOCAULON HUIANUM Ruhl., *Notizbl. Bot. Gart. Berlin* 10: [1040]. 1930.

Additional bibliography: Moldenke, *Phytologia* 20: 411. 1970; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 936. 1971.

ERIOCAULON HUMBOLDTII Kunth, *Emm. Pl.* 3: 544—545. 1841.

Additional bibliography: Moldenke, *Phytologia* 21: 428. 1971; Moldenke, *Fifth Summ.* 1: 116, 123, 129, & 149 (1971) and 2: 498, 502, 503, & 936. 1971.

Steyermark and the Dunstervilles describe this plant as having ascending pale rich-green leaves and white flower-heads. Harley, Souza, & Ferreira describe it as an herb, 75 cm. tall, with a rosette of more or less erect mid-green leaves, and white flowers, the "peduncles gradually increasing in diameter toward the flower-head", and found it growing in a swampy gallery forest. Steyermark found it in flat open wet savannas near an escarpment edge, at 1230—1240 meters altitude, flowering in September.

Additional citations: VENEZUELA: Amazonas: J. A. Steyermark 105146 (Ac). Bolívar: Steyermark, Dunsterville, & Dunsterville 104115 (Ft). BRAZIL: Bahia: Irwin, Grear, Souza, & Reis dos Santos 14742 (N). Mato Grosso: Harley, Souza, & Ferreira 10400 (N).

ERIOCAULON HUMILE Moldenke, *Phytologia* 3: 162—163. 1949.

Additional bibliography: Moldenke, *Phytologia* 21: 428 & 429. 1971; Moldenke, *Fifth Summ.* 1: 274 (1971) and 2: 936. 1971.

ERIOCAULON HYDROPHILUM Markötter, Ann. Univ. Stellenb. 8 A (1): 10. 1930.

Additional bibliography: Moldenke, Phytologia 18: 189. 1969; Moldenke, Fifth Summ. 1: 256 (1971) and 2: 936. 1971.

ERIOCAULON INFAUSTUM N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8: 253. 1901.

Additional bibliography: Moldenke, Phytologia 18: 189. 1969; Moldenke, Fifth Summ. 1: 251 (1971) and 2: 936. 1971.

ERIOCAULON INFIRMUM Steud., Nom. Bot., ed. 2, 1: 585 (1840); Syn. Fl. Glun. 2: [Cyp.] 271. 1855.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Fifth Summ. 1: 274, 283, 296, & 301 (1971) and 2: 501, 511, 512, & 936. 1971; Moldenke, Phytologia 21: 273 (1971) and 24: 339 & 350. 1972.

Recent collectors have found this plant growing at 1100 meters altitude, flowering and fruiting in November. The Saldanha 15327, distributed as E. infirmum, is actually E. truncatum Hamilt.

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4689 (Ac).

ERIOCAULON INFIRMUM var. KURZII (Fyson) Moldenke, Phytologia 19: 339. 1970.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 53. 1919; Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Phytologia 21: 274. 1971; Moldenke, Fifth Summ. 1: 283 (1971) and 2: 501 & 936. 1971.

ERIOCAULON INFIRMUM var. PUBERULENTUM (Moldenke) Van Royen, Nov. Guin., ser. 2, 10: 78. 1959.

Additional bibliography: Moldenke, Phytologia 20: 412. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 501 & 936. 1971.

ERIOCAULON INSULARE Ruhl. in Fedde, Repert. Spec. Nov. 22: 32. 1925.

Additional bibliography: Moldenke, Phytologia 20: 412. 1970; Hocking, Excerpt. Bot. A.16: 39 & 40. 1970; Moldenke, Fifth Summ. 1: 96 & 98 (1971) and 2: 936. 1971.

ERIOCAULON INTERMEDIUM Körn., Linnaea 27: 601—603. 1856.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 412. 1970; Satake, Journ. Jap. Bot. 46: 372. 1971; Moldenke, Fifth Summ. 1: 275, 281, 296, 301, & 324 (1971) and 2: 501, 512, & 937. 1971.

Charoenphol and his associates found this plant growing in 20 cm. of water in Thailand.

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4796 (Ac), 4810 (Ac).

ERIOCAULON INTRUSUM Meikle, Kew Bull. 22: 141. 1968.

Additional bibliography: Moldenke, *Phytologia* 19: 70—71. 1969; C. C. Townsend, *Excerpt. Bot. A.15*: 418. 1970; Moldenke, *Fifth Summ.* 1: 222 (1971) and 2: 504 & 937. 1971.

ERIOCAULON INUNDATUM Moldenke, *Phytologia* 3: 413—414. 1951.

Additional bibliography: Moldenke, *Phytologia* 20: 412. 1970; Moldenke, *Fifth Summ.* 1: 214 (1971) and 2: 937. 1971.

Lewalle describes the flower-heads of this plant as "white" or "grayish-white" and found the plant growing in marshes, flowering in February.

Additional citations: BURUNDI: Lewalle 517 (Z), 6147 (Ac).

ERIOCAULON INYANGENSE Arwidsson, *Bot. Notiser* 1934: 83. 1934.

Additional bibliography: Moldenke, *Phytologia* 20: 412. 1970; Moldenke, *Fifth Summ.* 1: 248 (1971) and 2: 937. 1971.

ERIOCAULON IRREGULARE Meikle, *Kew Bull.* 22: 143—144. 1968.

Additional bibliography: Moldenke, *Phytologia* 19: 71. 1969; C. C. Townsend, *Excerpt. Bot. A.15*: 418. 1970; Moldenke, *Fifth Summ.* 1: 216 & 218 (1971) and 2: 502 & 937. 1971.

ERIOCAULON JAPONICUM Körn. in *Miq., Ann. Mus. Bot. Lugd. Bat.* 3: 162—163 [as "iaponicum"]. 1867.

Additional bibliography: Ohwi, *Fl. Jap.*, [Jap. ed.], 262, 265, & 1296. 1953; Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 267—268. 1965; Moldenke, *Phytologia* 20: 412. 1970; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 503 & 937. 1971.

ERIOCAULON JAUENSE Moldenke, *Résumé Suppl.* 17: 2, nom. nud. (1968); *Phytologia* 18: 246, hyponym (1969); *Mem. N. Y. Bot. Gard.* 22: in press.

Additional bibliography: Moldenke, *Phytologia* 18: 246. 1969; Moldenke, *Fifth Summ.* 1: 123 (1971) and 2: 937. 1971.

ERIOCAULON JOHNSTONII Ruhl. in *Engl., Bot. Jahrb.* 27: 82. 1899.

Additional bibliography: Moldenke, *Phytologia* 19: 341. 1970; Moldenke, *Fifth Summ.* 1: 264 (1971) and 2: 937. 1971.

ERIOCAULON JORDANI (Moldenke) Meikle, *Kew Bull.* 22: 143. 1968.

Additional bibliography: Moldenke, *Phytologia* 19: 71. 1969; C. C. Townsend, *Excerpt. Bot. A.15*: 418. 1970; Moldenke, *Fifth Summ.* 1: 218 (1971) and 2: 637 & 937. 1971.

ERIOCAULON KAINANTENSE Masamune, *Trans. Nat. Hist. Soc. Taiwan* 33: 13 [as "kainantensis"]. 1943.

Additional bibliography: Moldenke, *Phytologia* 18: 247—248. 1969; Moldenke, *Fifth Summ.* 1: 292 (1971) and 2: 503 & 937. 1971.

ERIOCAULON KATHMANDUENSE Satake in Hara, *Univ. Mus. Univ. Tokyo Bull.* 2: 157—158, fig. 10. 1971.

Bibliography: Satake in Hara, *Univ. Mus. Univ. Tokyo Bull.* 2: 157—158, fig. 10. 1971; Moldenke, *Phytologia* 23: 422. 1972.

Illustrations: Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 157, fig. 10. 1971.

Satake (1971) describes the type locality and type collection of this species as follows: "Nepal. Sundarijal Waterfall, near Kathmandu, 1600 m (H. Hara, H. Kanai & S. Kurosawa, Sep. 20, 1963 — holotype in TI). Near to Eriocaulon luzulaefolium, but the involucreal bractlets are elliptical and obtuse at the apex, the anterior lobes of the male petals is much longer than the lateral ones, and female petals are more or less pilose." It is known thus far only from the original collection.

ERIOCAULON KATOI Onuma ex Moldenke, Résumé 173 & 481, nom. nud. (1959); Phytologia 18: 248, hyponym. 1959.

Additional bibliography: Moldenke, Phytologia 18: 248. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 937. 1971.

ERIOCAULON KENGII Ruhl., Notizbl. Bot. Gart. Berlin 10: 1042—1043. 1930.

Additional bibliography: Moldenke, Phytologia 18: 248. 1969; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 937. 1971.

ERIOCAULON KINABALUENSE Van Royen, Blumea 10: 133—134, fig. 1 F. 1960.

Additional bibliography: Moldenke, Phytologia 20: 412. 1970; Moldenke, Fifth Summ. 1: 324 (1972) and 2: 492 & 937. 1971.

ERIOCAULON KINLOCHII Moldenke, N. Am. Fl. 19: 23—24. 1937.

Additional bibliography: Moldenke, Phytologia 20: 13. 1970; Moldenke, Fifth Summ. 1: 81 (1971) and 2: 937. 1971.

McKee describes this plant as "submerged except for the inflorescence in small permanent pools, the leaves light-green, the inflorescence white", growing at 20 meters altitude in a pine savanna, flowering in January.

Additional citations: NICARAGUA: Zelaya: McKee 11269 (W—2634649).

ERIOCAULON KIUSIANUM Maxim., Diagn. Pl. Nov. Asiat. 8: 22—24. 1893.

Additional bibliography: Moldenke, Phytologia 20: 412. 1970; Moldenke, Fifth Summ. 1: 292, 310, & 313 (1971) and 2: 937. 1971.

ERIOCAULON KLOTZSCHII Moldenke, Phytologia 17: 484. 1969.

Additional bibliography: Moldenke, Phytologia 20: 412—413. 1970; Moldenke, Fifth Summ. 1: 129 (1971) and 2: 495 & 937. 1971.

ERIOCAULON KLOTZSCHII var. PROLIFERUM (Moldenke) Moldenke, Phytologia 17: 484. 1969.

Additional bibliography: Moldenke, Phytologia 19: 341. 1970; Moldenke, Fifth Summ. 1: 123 (1971) and 2: 495 & 937. 1971.

ERIOCAULON KOERNICKEI Britten, Journ. Bot. 1900: 481 & 482. 1900.

Additional bibliography: Moldenke, *Phytologia* 20: 413. 1970; Moldenke, *Fifth Summ.* 1: 149 (1971) and 2: 509, 516, 776, & 937. 1971.

ERIOCAULON KÖRNICKIANUM Van Heurck & Muell.-Arg. in Van Heurck, *Obs. Bot.* 101. 1870.

Additional bibliography: Moldenke, *Phytologia* 21: 274. 1971; Moldenke, *Fifth Summ.* 1: 47, 52, & 55 (1971) and 2: 504, 765, 776, 777, & 937. 1971.

ERIOCAULON KUNTHII Körn.

According to the careful comparisons recently made by Dr. L. B. Smith, this taxon is indistinguishable from *E. ligulatum* (Vell.) L. B. Sm. and must be reduced to synonymy under the latter.

ERIOCAULON KURTZII Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 186—188, *hyponym.* 1969.

Additional bibliography: Moldenke, *Phytologia* 20: 413. 1970.

ERIOCAULON KUSIROENSE Miyabe & Kudo ex Satake, *Journ. Jap. Bot.* 15: 629—630. 1939.

Additional & emended bibliography: Ohwi, *Fl. Jap.*, [Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 266 & 270. 1965; Moldenke, *Phytologia* 20: 413. 1970; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 494, 504, 511, & 937. 1971.

ERIOCAULON KWANTUNGENSE Ruhl., *Notizbl. Bot. Gart. Berlin* 10: 1042. 1930.

Additional bibliography: Moldenke, *Phytologia* 18: 255—256. 1969; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 504. 1971.

ERIOCAULON LACUSTRE Ruhl. in Fedde, *Repert. Spec. Nov.* 22: 33. 1925.

Additional bibliography: Moldenke, *Phytologia* 20: 413. 1970; Moldenke, *Fifth Summ.* 1: 96 (1971) and 2: 937. 1971.

ERIOCAULON LANATUM H. Hess, *Bericht. Schweiz. Bot. Gesell.* 65: 137—139, pl. 8, fig. 1, 2, & 4. 1955.

Additional bibliography: Moldenke, *Phytologia* 20: 413—414. 1970; Moldenke, *Biol. Abstr.* 52: 5935. 1971; Hocking, *Excerpt. Bot. A.* 19: 43. 1971; Moldenke, *Fifth Summ.* 1: 243 (1971) and 2: 937. 1971.

ERIOCAULON LANCEOLATUM Miq. ex Steud., *Syn. Pl. Glum.* 2: [Cyp.] 271—272. 1855.

Additional bibliography: Fyson, *Journ. Indian Bot.* 1: 50. 1919; Moldenke, *Phytologia* 21: 428. 1971; Moldenke, *Fifth Summ.* 1: 275 (1971) and 2: 505, 506, & 937. 1971.

ERIOCAULON LANCEOLATUM var. *PILOSUM* Moldenke, *Phytologia* 3: 164. 1949.

Additional bibliography: Moldenke, *Phytologia* 18: 257. 1969;

Moldenke, Fifth Summ. 1: 275 (1971) and 2: 937. 1971.

ERIOCAULON LANIGERUM H. Lecomte, Journ. de Bot. 21: 109. 1908.

Additional bibliography: Moldenke, Fifth Summ. 1: 301 (1971) and 2: 937. 1971; Moldenke, Phytologia 19: 73 (1971) and 20: 95. 1970.

ERIOCAULON LAOSENSE Moldenke, Phytologia 3: 309. 1950.

Additional bibliography: Moldenke, Phytologia 18: 258 & 434. 1969; Moldenke, Fifth Summ. 1: 301 (1971) and 2: 937. 1971.

ERIOCAULON LASIOLEPIS Ruhl. in Engl., Pflanzenreich 13 (4-30): 86. 1903.

Additional bibliography: Moldenke, Phytologia 21: 274. 1971; Moldenke, Fifth Summ. 1: 305 (1971) and 2: 546 & 937. 1971.

ERIOCAULON LATIFOLIUM J. Sm. in Rees, Cycl. 13: Eriocaulon. 1809.

Additional bibliography: Gledhill, Check List Flow. Pl. Sierra Leone 31. 1962; Moldenke, Phytologia 21: 274. 1971; Moldenke, Fifth Summ. 1: 210, 216, 218, 219, & 230 (1971) and 2: 494, 510, 571, 572, & 937. 1971.

ERIOCAULON LATIFOLIUM f. *PROLIFERUM* Moldenke, Résumé Suppl. 4: 6, nom. nud. (June 5, 1962); Phytologia 8: 387. December 10, 1962.

Additional bibliography: Moldenke, Phytologia 18: 259 (1969) and 20: 29. 1970; Moldenke, Fifth Summ. 1: 214 (1971) and 2: 937. 1971.

ERIOCAULON LAXIFOLIUM Körn., Linnaea 27: 600. 1856.

Additional bibliography: Moldenke, Phytologia 21: 274. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 504, 585, & 937. 1971.

ERIOCAULON LEPIDUM Koyama, Philip. Journ. Sci. 84: 371-372, pl. 3. 1956.

Additional bibliography: Moldenke, Phytologia 18: 260. 1969; Moldenke, Fifth Summ. 1: 296 (1971) and 2: 937. 1971.

ERIOCAULON LEPTOPHYLLUM Kunth, Enum. Pl. 3: 549. 1841.

Additional bibliography: Moldenke, Phytologia 21: 428-429. 1971; Moldenke, Fifth Summ. 1: 149, 189, & 195 (1971) and 2: 493, 504, 593, 636, & 937. 1971.

Krapovickas and his associates found this plant growing "en pantano, al borde de una isleta de selva", but misidentified it as *E. crassiscapum* Bong.

Additional citations: BRAZIL: Minas Gerais: Irwin, Onishi, Fonseca, Souza, Reis dos Santos, & Ramos 25641 (N). ARGENTINA: Corrientes: Krapovickas, Cristóbal, Arbo, Maruffak, Maruffak, & Irigoyen 17252 (Rf).

ERIOCAULON LEUCOGENES Ridl., Trans. Linn. Soc. Lond. Bot., ser. 2,

Illustrations: Wettst., Veg. Südras. pl. 56 & 57. 1904; Wettst., Handb. Syst. Bot., ed. 2, 814. 1911.

My respected colleague and friend, Dr. Lyman B. Smith, has recently made very careful studies of this plant, with comparisons of type material, and has come to the conclusion that E. kunthii Körn., E. vaginatum Körn., and E. ligulatum are all conspecific. In a letter to me, dated October 21, 1971, he says, in part: "I have just received the loan of Eriocaulon kunthii from Berlin.... 5 sheets including the type and some detail sketches of the flowers. For a moment I thought that 'receptaculum pilosum' for E. kunthii and 'receptaculum glabrum' for E. vaginatum would give a basis [for separation], but our isotype of E. kunthii has the receptacle pilose. The sketches and the flowers themselves are no better. There is no way of distinguishing the two that I can find." In view of these findings, my previously expressed opinion about the validity of both species will have to be changed and all the notes and citations given by me in previous installments of this work under E. kunthii will now have to be shifted to E. ligulatum.

Material of E. ligulatum, in this new expanded sense, has been found growing at altitudes of 800 to 1500 meters, flowering from September to December, fruiting in September, October, December, and January. The Hemmendorff collection, cited below, does not actually indicate on its labels that it came from cultivated material, but the labels do say that it was collected in the Horto Florestal at Cantateira, São Paulo, not far from the city of São Paulo itself in the initial portions of the Mantiqueira Mountains, so I am assuming that it was from cultivated material originally from Minas Gerais. The Irwin, Harley, & Onishi 29319 collection, cited below, was gathered with the "inflorescences dried and deteriorating" and the specimen seen by me is totally lacking in any flowers or fruit, so identification cannot be certain. It is described as a "rosette herb", growing in gray sandy soil on a wet campo (brejo) in an area of campo and gallery margin with outcrops.

Additional & emended citations: BRAZIL: Minas Gerais: Black 51-11001 (Z); A. Castellanos 24179 [Herb. Cent. Pesq. Florest. 2951] (An, Rf); Dusén 2045 (S, S); Glaziou 6742 [Macbride photos 22275] (N--photo, W--photo); Hemmendorff 468, in part (N, S); Irwin, Harley, & Onishi 29319 (Ld); R. S. Santos s.n. [12.9.63] (Bd--28326); Santos & Castellanos 24179 [Herb. Brad. 28327] (N); Sellow B.1290 (Br), B.1290 C.263 (B, B, B); A. Silveira 2939 (B); Stephan s.n. [Congonhas do Campo, 1843] (Br, N); Ule s.n. [Herb. Mus. Nac. Rio Jan. 28] (S). Paraná: Braga s.n. [28/8/59; Herb. Inst. Hist. Nat. 5271] (Mm); Dombrowski & Saito 350/159 (Ac); Hatschbach 7303 (Ca), 22965 (Ac, N), 24920 (Rf); Moure s.n. [Remessa 19, Número 1; 24-9-52] (Ft). Rio Grande do Sul: Borrmüller 591 (Mu--412, Mu--413); Friedrichs 30570 (S), 30670 (N, S); Gaudichaud 262 (P); Rambo 36785 (S), 52183 (S); Saint Hilaire C².1805 (P, P, P). Santa Catarina: Reitz & Klein 4794 (W--2268931); Smith & Klein 7351 (N, W--2251268,

Z), 8242 (Ok, W—2251365). São Paulo: L. Riedel 2388 (B); Segadas-Vianna 3123 (Sm). CULTIVATED: Brazil: Hemmeldorff 468, in part (N, S). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

ERIOCAULON LINEARE Small, Fl. SE. U. S., ed. 1, 236 & 1328. 1903.

Additional bibliography: Hotchkiss, Bur. Sports Fish. & Wildlife U. S. Dept. Int. Res. Publ. 33:[Underw. & Float. Pl.] 25. 1967; Moldenke, Phytologia 21: 275. 1971; Cusick, Castanea 35: 323. 1971; Moldenke, Fifth Summ. 1: 26, 28, 31, & 32 (1971) and 2: 504 & 937. 1971; Hotchkiss, Common Marsh Underw. & Float. Pl. [2]: 25. 1972; A. L. Moldenke, Phytologia 24: 359. 1972.

I suspect that the records for Eriocaulon texense Körn. given by Cusick (1970) from Washington County, Alabama, and from George and Jackson Counties, Mississippi, actually refer to E. lineare.

It should be noted that Hotchkiss (1967) reduces E. lineare to what he calls E. septangulare With. [now known as E. pellucidum Michx. on this continent and E. aquaticum (J. Hill) Druce in Europe], but with this disposition I cannot agree.

ERIOCAULON LINEARIFOLIUM Körn., Linnaea 27: 601. 1856.

Additional bibliography: Moldenke, Phytologia 21: 275. 1971; Moldenke, Fifth Summ. 1: 149 & 182 (1971) and 2: 937. 1971.

Additional citations: BRAZIL: Mato Grosso: Hatschbach & Guimarães 24560 (N).

ERIOCAULON LIVIDUM F. Muell., Fragm. 1: 92. 1859.

Additional bibliography: Moldenke, Phytologia 19: 342 & 445. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 937. 1971.

ERIOCAULON LONGICUSPE Hook. f., Fl. Brit. India 6: 573. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 21: 275. 1971; Moldenke, Fifth Summ. 1: 281 (1971) and 2: 504, 505, 774, & 937. 1971.

ERIOCAULON LONGIPEDUNCULATUM H. Lecomte, Not. Syst. 2: 380. 1913.

Additional bibliography: Moldenke, Phytologia 21: 275. 1971; Moldenke, Fifth Summ. 1: 341 (1971) and 2: 504 & 937. 1971.

ERIOCAULON LONGIPETALUM Rendle, Cat. Afr. Pl. Welw. 2 (1): 96—97. 1899.

Additional bibliography: Moldenke, Phytologia 19: 342. 1970; Moldenke, Fifth Summ. 1: 243 (1971) and 2: 973. 1971.

ERIOCAULON LONGIROSTRUM Alv. Silv. & Ruhl. ex Ruhl. in Engl., Pflanzenreich 13 (4-30): 113. 1903.

Additional bibliography: Moldenke, Phytologia 21: 275. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 505, 585, & 937. 1971.

ERIOCAULON LUZULAEFOLIUM Mart. in Wall., Pl. Asiat. Rar. 3: 28. 1832.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 52. 1919; Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 158. 1971; Moldenke, Fifth Summ. 1: 269, 270, 275, 281, 283, 296, & 301 (1971) and 2: 505 & 937. 1971; Moldenke, Phytologia 21: 429 (1971) and 23: 422. 1972.

Charoenphol and his associates found this plant growing with Juncus along a stream in an evergreen forest, at 700 meters altitude, in Thailand.

Thwaites & Hooker (1864) have suggested that E. trilobum Hamilt. might be conspecific with E. luzulaefolium, but I regard Hamilton's name as belonging in the synonymy of E. sollyanum Royle instead.

Dr. Cook has found E. luzulaefolium growing in shallow water and on wet mud at the edge of rice fields, locally abundant, about 2 km. west of Gréggio and 2 km. north of Villarboit, south of the Autostrada, in the province of Piemonte, in northern Italy. He asserts that it has been growing here for at least the past thirteen years. He regarded it as E. cinereum R. Br., but it seems to me that it comes closer to E. luzulaefolium. It is possible that the California material hitherto uniformly regarded as E. cinereum may, on re-examination, also prove to represent E. luzulaefolium. It certainly should be re-studied.

Datta & Majumdar (1966) describe E. luzulaefolium as a "Perennial herb, found in rice-fields and wet places. Leaves pale gray-green, opaque. Head hemispheric, grey. Receptacle villous. Floral bracts densely hairy.....Distributed in the tropics."

Additional citations: ITALY: Cook & Rix 45 (Id, Z). THAILAND: Charoenphol, Larsen, & Warncke 4365 (Ac).

ERIOCAULON MACROBOLAX Mart. ex Körn., Linnaea 27: 599, nom. nud. (1856); Mart., Fl. Bras. 3 (1): 484-485, pl. 62, fig. 3. 1863.

Additional bibliography: Moldenke, Phytologia 21: 275. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 505, 585, & 938. 1971.

ERIOCAULON MACROPHYLLUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 77. 1903.

Additional bibliography: Moldenke, Phytologia 20: 12 & 14. 1970; Moldenke, Fifth Summ. 1: 324 (1971) and 2: 495 & 938. 1971.

ERIOCAULON MACULATUM Schinz, Bull. Herb. Boiss., sér. 2, 6: 709. 1906.

Additional bibliography: Moldenke, Phytologia 18: 275. 1969; Moldenke, Fifth Summ. 1: 256 (1971) and 2: 938. 1971.

ERIOCAULON MADAGASCARIENSE Moldenke, Phytologia 3: 414. 1951.

Additional bibliography: Moldenke, Phytologia 18: 275. 1969; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 938. 1971.

ERIOCAULON MAGNIFICUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 48. 1903.

Additional & emended bibliography: Rambo, Sellowia 6: 130, 156, & 158. 1954; Reitz, Sellowia 22: 51. 1970; Moldenke, Phytologia 21: 276. 1971; Hocking, Excerpt. Bot. A. 18: 444. 1971; Moldenke, Fifth Summ. 1: 149 & 362 (1971) and 2: 938. 1971.

Additional citations: BRAZIL: Santa Catarina: Ule 1689 (N—photo of isotype).

ERIOCAULON MAGNIFICUM var. GOYAZENSE Moldenke, Phytologia 18: 342. 1969.

Additional bibliography: Moldenke, Phytologia 21: 276. 1971; Hocking, Excerpt. Bot. A. 18: 444. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 938. 1971.

ERIOCAULON MAGNUM Abbiatti, Rev. Mus. La Plata Bot., ser. 2, 6: 323—326, fig. 2 & 3, pl. 1. 1946.

Additional bibliography: Moldenke, Phytologia 21: 276. 1971; Moldenke, Fifth Summ. 1: 185 & 195 (1971) and 2: 493 & 938. 1971.

Additional citations: ARGENTINA: Corrientes: Irigoyen 45 (Rf).

ERIOCAULON MAJUSCULUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 44—45, fig. 6. 1903.

Additional bibliography: Moldenke, Phytologia 19: 77. 1969; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 505 & 938. 1971.

Recent collectors have found this plant growing at 2400 meters altitude, flowering and fruiting in July. The Eitens found it along a road on a planalto of steep hilly terrain, at 2300 meters altitude, in an area of many hills topped with mountainous outcrops of bare sienite quartz, the hillsides with frequent rounded outcropping quartz rocks and boulders and a thin black almost pure humus soil supporting a periodically burned natural tussock sedge-grassland with scattered low Chusquea bamboo and occasionally other shrubs, the lower valley sides with dense Chusquea brakes or brooks lined with a marsh of Cladium in tussocks, this plant growing in soaking soil of the brooksides, with its flower-heads grayish-white. [I want to take this occasion to compliment Dr. and Mrs. Eiten again on the painstaking care with which they prepare the printed labels for their plant collections and the most valuable detailed ecologic notes included on them. Would that there were more collectors like this!]

Additional citations: BRAZIL: Rio de Janeiro: Eiten & Eiten 6642 (Rf); Strang & Castellanos 26129 [Herb. Brad. 49652] (Rf).

ERIOCAULON MALAISSEI Moldenke, Phytologia 19: 343—345, pl. 1. 1970.

Additional bibliography: Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Phytologia 21: 276. 1971; Anon., Assoc. Stud. Tax. Fl. Afr. Trop. Index 1970: 25. 1971; Moldenke, Fifth Summ. 1: 230 (1971) and 2: 938. 1971.

ERIOCAULON MALAISSEI f. VIVIPARUM Moldenke, Phytologia 19: 345—346. 1970.

Additional bibliography: Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Phytologia 21: 276. 1971; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Index 1970: 25. 1971; Moldenke, Fifth Summ. 1: 230 (1971) and 2: 938. 1971.

ERIOCAULON MANFEEENSE Meikle, Kew Bull. 22: 141--142. 1968.

Additional bibliography: Moldenke, Phytologia 19: 77. 1969; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Moldenke, Fifth Summ. 1: 224 (1971) and 2: 938. 1971.

ERIOCAULON MANNII N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8: 241. 1901.

Additional bibliography: Moldenke, Phytologia 19: 346. 1970; Moldenke, Fifth Summ. 1: 226 & 243 (1971) and 2: 938. 1971.

ERIOCAULON MARGARETAE Fyson, Journ. Indian Bot. 1: 50, hyponym (1919) and 2: 316. 1921.

Additional bibliography: Cherian & Pataskar, Bull. Bot. Surv. India 11: 395. 1969; Moldenke, Phytologia 19: 346. 1970; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 938. 1971.

Cherian & Pataskar (1969) encountered a few of these plants in marshy areas "near nala" in Kumbhala, India, flowering and fruiting in September, and cite their no. 111567.

ERIOCAULON MATOPENSE Rendle, Journ. Linn. Soc. Lond. Bot. 37: 475. 1906.

Additional bibliography: Moldenke, Phytologia 21: 276. 1971; Moldenke, Fifth Summ. 1: 248 (1971) and 2: 492 & 938. 1971.

ERIOCAULON MEGAPOTAMICUM Malme, Arkiv Bot. Stockh. 26A (9): 8. 1935.

Additional & emended bibliography: Rambo, Sellowia 6: 130 & 156--158. 1954; Reitz, Sellowia 13: 53. 1961; Moldenke, Phytologia 18: 276 & 279. 1969; Reitz, Sellowia 22: 51. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 938. 1971.

ERIOCAULON MEIKLEI Moldenke, Phytologia 3: 164--165. 1949.

Additional bibliography: Moldenke, Phytologia 18: 279. 1969; Moldenke, Fifth Summ. 1: 214 (1971) and 2: 938. 1971.

ERIOCAULON MELANOCEPHALUM Kunth, Enum. Fl. 3: 549. 1841.

Additional & emended bibliography: J. A. Steyerl., Act. Bot. Venez. 1: 195. 1966; Hocking, Excerpt. Bot. A.16: 40. 1970; Moldenke, Phytologia 21: 276--277. 1971; Moldenke, Fifth Summ. 1: 96, 116, 123, 129, 133, & 150 (1971) and 2: 493, 495, 546, 586, & 938. 1971.

ERIOCAULON MELANOCEPHALUM var. *LONGIPES* Griseb., Cat. Pl. Cub. 226. 1866.

Additional bibliography: Moldenke, Phytologia 21: 277. 1971; Moldenke, Fifth Summ. 1: 96 (1971) and 2: 938. 1971.

ERIOCAULON MELANOCEPHALUM ssp. USTERIANUM Beauverd, Bull. Herb. Boiss., sér. 2, 8: 284—287, fig. 9 B 15—27. 1908.

Additional bibliography: Moldenke, Phytologia 21: 277. 1971; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 515 & 938. 1971.

ERIOCAULON MELANOLEPIS Alv. Silv., Arch. Mus. Nac. Rio Jan. 23: 163. 1921.

Additional bibliography: Moldenke, Phytologia 18: 302. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 938. 1971.

ERIOCAULON MERRILLII Ruhl. ex J. R. Perkins, Fragm. Fl. Philipp. 1: 136. 1904.

Additional bibliography: Moldenke, Phytologia 21: 277. 1971; Moldenke, Fifth Summ. 1: 301, 316, & 324 (1971) and 2: 505, 513, & 938. 1971.

ERIOCAULON MESANTHEMOIDES Ruhl. in Engl., Bot. Jahrb. 27: 79. 1899.

Additional bibliography: Moldenke, Phytologia 21: 277. 1971; Moldenke, Fifth Summ. 1: 237 & 249 (1971) and 2: 938. 1971.

ERIOCAULON MEXICANUM Moldenke, N. Am. Fl. 19: 33. 1937.

Additional bibliography: Moldenke, Phytologia 21: 277. 1971; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 938. 1971.

ERIOCAULON MICROCEPHALUM H.B.K., Nov. Gen. & Sp. Pl., ed. quarto, 1: 253 (1816) & ed. folio, 1: 201—202. 1816.

Additional bibliography: Dwyer, Raymondiana 4: 27. 1971; Moldenke, Phytologia 21: 277. 1971; Moldenke, Fifth Summ. 1: 64, 69, 87, 116, 136, & 140 (1971) and 2: 506, 509, 592, & 938. 1971; Soukup, Biota 9: 19. 1972.

Rzedowski describes the flower-heads of this plant as "whitish" and found it growing "en lugar pantanoso" and on a "ladera andesítica con vegetación de bosque de Pinus hartwegii". Dwyer (1971) cites Woytkowski 6204 from San Martín, Peru.

Additional citations: MEXICO: Hidalgo: J. Rzedowski 26759 (Mi). México: J. Rzedowski 25963 (Mi).

ERIOCAULON MIKAWANUM Satake & Koyama, Journ. Jap. Bot. 30: 114—116. 1955.

Additional bibliography: Moldenke, Phytologia 21: 277—278. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 506, 513, & 938. 1971.

ERIOCAULON MILHOENSE Herzog in Fedde, Repert. Spec. Nov. 29: 204—205, pl. 120, fig. a--d. 1931.

Additional bibliography: Moldenke, Phytologia 19: 79. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 938. 1971.

ERIOCAULON MINIMUM Lam., Tabl. Encycl. Méth. 1: 213. 1791.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919;

Moldenke, *Phytologia* 20: 14--15 & 23 (1970) and 21: 428. 1971;
Moldenke, *Fifth Summ.* 1: 268, 275, & 281 (1971) and 2: 512, 515,
& 938. 1971; Moldenke, *Phytologia* 24: 339 & 350. 1972.

ERIOCAULON MINUSCULUM Moldenke, *Phytologia* 8: 159. 1962.

Additional bibliography: Moldenke, *Phytologia* 21: 278. 1971;
Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 938. 1971.

ERIOCAULON MINUTISSIMUM Ruhl. in Fedde, *Repert. Spec. Nov.* 22: 32.
1925.

Additional bibliography: Moldenke, *Phytologia* 21: 278. 1971;
Moldenke, *Fifth Summ.* 1: 96 (1971) and 2: 938. 1971.

ERIOCAULON MINUTUM Hook. f., *Fl. Brit. India* 6: 579--580. 1893.

Additional bibliography: Fyson, *Journ. Indian Bot.* 1: 50, 51,
& 53, fig. 6. 1919; Billore & Hemadri, *Bull. Bot. Surv. India* 11:
345. 1969; Moldenke, *Phytologia* 21: 428 & 429. 1971; Moldenke,
Fifth Summ. 1: 268 & 275 (1971) and 2: 938. 1971.

Additional illustrations: Fyson, *Journ. Indian Bot.* 1: 51, fig.
6. 1919.

Billore & Hemadri (1969) encountered this plant on the top of a
"ghat" at Sadrya and at the Kedarnath temple, in India, citing
their nos. 115482 & 115563.

ERIOCAULON MIQUELIANUM Körn. in Miq., *Ann. Mus. Bot. Lugd. Bat.* 3:
162--163. 1867.

Additional & emended bibliography: Satake, *Bot. Mag. Tokyo* 51:
288 & 290 [Shib. *Comm. Art.* 17: 106 & 108]. 1937; Ohwi, *Fl. Jap.*,
[Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, *Fl. Jap.*,
[Engl. ed.], 266, 268, & 269. 1965; Moldenke, *Phytologia* 21: 429.
1971; Moldenke, *Fifth Summ.* 1: 310, 312, & 424 (1971) and 2: 506,
510, & 938. 1971.

ERIOCAULON MIQUELIANUM var. *ATROSEPALUM* Satake, *Journ. Jap. Bot.*
15: 629. 1939.

Additional bibliography: Moldenke, *Phytologia* 21: 278. 1971;
Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 938. 1971.

ERIOCAULON MIQUELIANUM var. *INVOLUCRATUM* Nakai, *Bot. Mag. Tokyo*
24: 6. 1910.

Additional bibliography: Moldenke, *Phytologia* 21: 429. 1971;
Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 506 & 938. 1971.

ERIOCAULON MIQUELIANUM var. *LUTCHUENSE* (Koidz.) Koyama in Ohwi,
Fl. Jap., [Engl. ed.], 268. 1965.

Additional bibliography: Moldenke, *Phytologia* 21: 429. 1971;
Moldenke, *Fifth Summ.* 1: 312 (1971) and 2: 505, 513, 938, & 972.
1971.

ERIOCAULON MISERRIMUM Ruhl. in Fedde, *Repert. Spec. Nov.* 22: 30.
1925.

Additional bibliography: Moldenke, *Phytologia* 21: 278. 1971;

Moldenke, Fifth Summ. 1: 98 (1971) and 2: 938. 1971.

ERIOCAULON MISERUM Körn., Linnaea 27: 607--608. 1856.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 52. 1919; Moldenke, Phytologia 21: 278. 1971; Moldenke, Fifth Summ. 1: 268, 270, & 275 (1971) and 2: 497 & 938. 1971.

ERIOCAULON MISSIONUM Castell. in Descole, Gen. Sp. Pl. Argent. 3: 88--90, pl. 18, fig. A. 1945.

Additional bibliography: Moldenke, Phytologia 21: 278. 1971; Moldenke, Biol. Abstr. 52: 9948. 1971; Moldenke, Fifth Summ. 1: 195 (1971) and 2: 938. 1971.

ERIOCAULON MITOPHYLUM Hook. f., Fl. Brit. India 6: 575. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 52. 1919; Moldenke, Phytologia 18: 313--314. 1969; Moldenke, Fifth Summ. 1: 268 & 275 (1971) and 2: 506 & 938. 1971.

ERIOCAULON MODESTUM Kunth, Enum. Pl. 3: 547. 1841.

Additional bibliography: Reitz, Sellowia 22: 51. 1970; Moldenke, Phytologia 21: 429. 1971; Moldenke, Fifth Summ. 1: 150 & 189 (1971) and 2: 503, 506, 509, 517, & 938. 1971; Moldenke, Biol. Abstr. 53: 5252. 1972; Anon., Biol. Abstr. 53 (10): B.A.S.I.C. S.85. 1972.

The Ratter, Richards, & Argent R.487, distributed as E. modestum, is actually E. neglectum Ruhl.

ERIOCAULON MODESTUM var. BREVIFOLIUM Moldenke, Phytologia 21: 417. 1971.

Additional bibliography: Moldenke, Phytologia 21: 429. 1971; Moldenke, Fifth Summ. 2: 938 & 968. 1971; Anon., Biol. Abstr. 53 (10): B.A.S.I.C. S.85. 1972; Moldenke, Biol. Abstr. 53: 5252. 1972.

Irwin and his associates describe this plant as a rosette herb, the inflorescences one to few [per plant], to 40 cm. tall, and the flower-heads white. They found it growing on a campo in an area of gallery forest and adjacent wet campo (brejo) at about 1250 m. altitude, flowering in March.

Additional citations: BRAZIL: Distrito Federal: Irwin, Souza, & Reis dos Santos 11677 (N). Goiás: Irwin, Grear, Souza, & Reis dos Santos 13498 (N); Irwin, Harley, & Smith 32195 (Ld).

ERIOCAULON MODESTUM f. GRANDIFLORUM Herzog ex Moldenke, Known Geogr. Distrib. Erioc. 8, nom. nud. 1946.

Additional bibliography: Moldenke, Phytologia 19: 80. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 506 & 938. 1971.

ERIOCAULON MODESTUM f. RIGIDIFOLIUM Herzog in Luetzelburg, Estud. Bot. Nordeste 3: 147 & 150, hyponym [as "rigidifolia"]. 1923.

Additional bibliography: Moldenke, Phytologia 19: 80--81. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 506 & 938. 1971.

ERIOCAULON MODESTUM f. VIVIPARUM Herzog in Luetzelburg, Estud. Bot.

Nordéste 3: 147, 149, & 150, hyponym [as "vivipara"]. 1923.

Additional bibliography: Moldenke, *Phytologia* 19: 80 & 81. 1969; Moldenke, *Fifth Summ.* 1: 150 & 189 (1971) and 2: 506 & 938. 1971.

ERIOCAULON MOKALENSE Moldenke, *Phytologia* 3: 414--415. 1951.

Additional bibliography: Moldenke, *Phytologia* 18: 319. 1969; Moldenke, *Fifth Summ.* 1: 261 (1971) and 2: 938. 1971.

ERIOCAULON MOLINAE L. O. Williams, *Fieldiana Bot.* 31: 255--256. 1967.

Additional bibliography: Moldenke, *Fifth Summ.* 1: 83 (1971) and 2: 939. 1971; Moldenke, *Phytologia* 21: 429 (1971) and 23: 414 & 416. 1972.

McVaugh describes this plant as having gray flower-heads, growing abundantly in mud which was recently submerged in muddy water-filled depressions in level grasslands, at an altitude of 2100--2200 meters, flowering and fruiting in November.

Additional citations: MEXICO: Jalisco: R. McVaugh 24384 (Mi).

ERIOCAULON MONOCOCCOS Nakai in Matsumura, *Icon. Pl. Koisikav.* 2: 35--36, pl. 102. 1914.

Additional synonymy: *Eriocaulon miquelianum* var. *monococcon* (Nakai) Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 269. 1965.

Additional & emended bibliography: Nakai in Matsumura, *Icon. Pl. Koisikav.* 2: 35--36, pl. 102. 1914; Ohwi, *Fl. Jap.*, [Jap. ed.], 262, 264, & 1296. 1953; Koyama in Ohwi, *Fl. Jap.*, [Engl. ed.], 269. 1965; Moldenke, *Phytologia* 21: 429--430. 1971; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 506 & 939. 1971.

Koyama (1965) records the vernacular variant "ezo-hoshi-kusa" for this plant, describes it as very slender, the receptacle glabrous, and the pistillate florets with a unilocular ovary and single stigma, and reports it as scarce in peaty soil on Hokkaido and Honshu [Yamato Province] islands, Japan.

ERIOCAULON MONOCOCCOS var. *LATIFOLIUM* Nakai in Matsumura, *Icon. Pl. Koisikav.* 2: 35--36. 1914.

Additional & emended bibliography: Nakai in Matsumura, *Icon. Pl. Koisikav.* 2: 35--36. 1914; Moldenke, *Phytologia* 18: 319. 1969; Moldenke, *Fifth Summ.* 1: 310 (1971) and 2: 506 & 939. 1971.

Nakai (1914) describes this variety as "Folia latiore supra basin 6 mm. lata. Bracteae involucrentes plus minus dilatatae. Habitat in eodem loco supra citato [Tusikavi, Yeso]." This locality is on Hokkaido island, Japan.

ERIOCAULON MONODII Moldenke, *Phytologia* 3: 165--166. 1949.

Additional bibliography: Moldenke, *Phytologia* 18: 319--320. 1969; Moldenke, *Fifth Summ.* 1: 214 (1971) and 2: 939. 1971.

ERIOCAULON MONOSCAPUM F. Muell., *Fragm.* 1: 94--95. 1859.

Additional bibliography: Moldenke, *Phytologia* 18: 320. 1969;

Moldenke, Fifth Summ. 1: 346 (1971) and 2: 939. 1971.

ERIOCAULON MONTANUM Van Royen, Nov. Guin., ser. 2, 10: 40—41, fig. 3 N. 1959.

Additional bibliography: Moldenke, Phytologia 21: 430. 1971; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 939. 1971.

ERIOCAULON MUTATUM N. E. Br. in Thiselt.—Dyer, Fl. Trop. Afr. 8: 256—257. 1901.

Additional bibliography: Moldenke, Phytologia 21: 430. 1971; Moldenke, Fifth Summ. 1: 237, 243, 246, 248, & 261 (1971) and 2: 493, 503, 506, 510, & 939. 1971.

ERIOCAULON NAKASIMANUM Satake, Journ. Jap. Bot. 15: 143. 1939.

Emended synonymy: Eriocaulon atrum var. nakasimanum (Satake) Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965; Moldenke, Phytologia 21: 430. 1971; Satake, Journ. Jap. Bot. 46: 110 & 111. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 494 & 939. 1971; Anon., Biol. Abstr. 54 (1): B.A.S.I.C. S.88. 1972; Moldenke, Phytologia 24: 344. 1972.

Satake (1971) avers that this species resembles E. nasuense Satake and E. atrum Nakai.

ERIOCAULON NAKASIMANUM var. SUPERANS Satake, Bull. Tokyo Sci. Mus. 4: 54. 1940.

Additional bibliography: Moldenke, Phytologia 18: 322. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 939. 1971.

ERIOCAULON NAKAYENSE Koyama, Philip. Journ. Sci. 84: 372—373, pl. 2, fig. 1, & pl. 5, fig. A. 1956.

Additional bibliography: Moldenke, Phytologia 18: 322. 1969; Moldenke, Fifth Summ. 1: 296 (1971) and 2: 939. 1971.

ERIOCAULON NANELLUM Ohwi, Bot. Mag. Tokyo 44: 566. 1930.

Emended synonymy: Eriocaulon nanellum var. nanellum Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 270. 1965; Moldenke, Phytologia 21: 430 & 432. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 507 & 939. 1971.

ERIOCAULON NANELLUM var. ALBESCENS Satake, Journ. Jap. Bot. 15: 630. 1939.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965; Moldenke, Phytologia 21: 430. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 507 & 939. 1971.

ERIOCAULON NANELLUM var. FILAMENTOSUM (Satake) Satake, Journ. Jap.

Bot. 15: 631. 1939.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965; Moldenke, Phytologia 21: 430--431. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 500, 507, & 939. 1971.

ERIOCAULON NANTOENSE Hayata, Icon. Pl. Formos. 10: 51, fig. 28. 1921.

Additional bibliography: Moldenke, Phytologia 19: 82. 1969; Moldenke, Fifth Summ. 1: 310 & 313 (1971) and 2: 507 & 939. 1971.

ERIOCAULON NANUM R. Br., Prodr. Fl. Nov. Holl., pr. 1, 1: 254. 1810.

Additional bibliography: R. Schomb., Fl. S. Austral. 62. 1875; Moldenke, Phytologia 20: 15. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 939. 1971; Moldenke, Phytologia 23: 425. 1972.

ERIOCAULON NASUENSE Satake, Journ. Jap. Bot. 46: 109--111, fig. 1 & 2. 1971.

Bibliography: Satake, Journ. Jap. Bot. 46: 109--111, fig. 1 & 2. 1971; "D. J. P.", Biol. Abstr. 54: 75. 1972; Anon., Biol. Abstr. 54 (1): B.A.S.I.C. S.88. 1972; Moldenke, Phytologia 24: 344. 1972.

Illustrations: Satake, Journ. Jap. Bot. 46: 109 & 110, fig. 1 & 2. 1971.

This species is based on B. Kawamura 271724, collected at Minami-Kanamabu, near Otawara City, Tochigi Prefecture, Honshu, Japan, on October 11, 1970, and is deposited in the herbarium of the Tokyo Natural History Museum. Satake (1971) notes that "This new species resembles E. atrum Nakai and E. Nakasimanum Satake, but the plant is more robust with densely tufted peduncles, and distinguishable from the former in having glabrous receptacles and female petals and from the latter by the entirely glabrous floral bracts and female calyces."

ERIOCAULON NAUTILIFORME H. Lecomte, Journ. de Bot. 21: 89 & 105--106, fig. 2 & 3. 1908.

Additional bibliography: Moldenke, Phytologia 19: 348. 1970; Moldenke, Fifth Summ. 1: 301 (1971) and 2: 939. 1971.

ERIOCAULON NEESIANUM Körn., Linnaea 27: 628--630. 1856.

Additional bibliography: Moldenke, Phytologia 21: 431. 1971; Moldenke, Fifth Summ. 1: 281 (1971) and 2: 514 & 939. 1971.

ERIOCAULON NEGLECTUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 59. 1903.

Additional bibliography: Moldenke, Phytologia 21: 431. 1971; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 939. 1971.

This species has been found growing on sand on a low islet in a river, flowering and fruiting in August. Material has been misidentified in herbaria as E. modestum Kunth and Paepalanthus sp.

Additional citations: BRAZIL: Mato Grosso: Ratter, Ramos, Richards, & Argent R.487 (N).

ERIOCAULON NEO-CALEDONICUM Schlecht. in Engl., Bot. Jahrb. 40, Beibl. 92: 20. 1908.

Additional bibliography: Moldenke, Phytologia 21: 431. 1971; Moldenke, Fifth Summ. 1: 341 (1971) and 2: 507 & 939. 1971.

Erdtman (1969) describes the pollen grains of this species as anomotreme and gives an illustration of a single grain.

ERIOCAULON NEPALENSE Prescott ex Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 610. 1831.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Mitra, Elem. Syst. Bot. Angiosp., ed. 2 abrdg., 165. 1967; Moldenke, Phytologia 20: 15. 1970; Hocking, Excerpt. Bot. A.16: 40 (1970) and A.18: 444. 1971; Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 158 & 160. 1971; Moldenke, Fifth Summ. 1: 268, 270, 271, & 275 (1971) and 2: 507, 509, 516, 939, & 969. 1971.

ERIOCAULON NIGERICUM Meikle, Kew Bull. 1950: 231. 1950.

Additional bibliography: Moldenke, Phytologia 21: 431. 1971; Moldenke, Fifth Summ. 1: 210, 216, 219, & 222 (1971) and 2: 939. 1971.

ERIOCAULON NIGRICEPS Merr., Philip. Journ. Sci. Bot. 10: 290. 1915.

Additional bibliography: Moldenke, Phytologia 18: 350. 1969; Moldenke, Fifth Summ. 1: 316 (1971) and 2: 939. 1971.

ERIOCAULON NIGRUM H. Lecomte, Journ. de Bot. 21: 89 & 107--108. 1908.

Additional bibliography: Moldenke, Phytologia 21: 431. 1971; Moldenke, Fifth Summ. 1: 292 & 301 (1971) and 2: 503, 507, & 939. 1971.

ERIOCAULON NIGRUM var. FUSCESCENS Koyama, Philip. Journ. Sci. 84: 373, pl. 6, fig. E. 1956.

Additional bibliography: Moldenke, Phytologia 18: 350--351. 1969; Moldenke, Fifth Summ. 1: 301 (1971) and 2: 939. 1971.

ERIOCAULON NILAGIRENSE Steud., Syn. Pl. Glum. 2: [Cyp.] 271. 1855.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Bate-Smith, Journ. Linn. Soc. Lond. Bot. 60: 334. 1968; Blasco, Inst. Franç. Pond. Trav. Secc. Scient. & Techn. 10: 401. 1971; Moldenke, Fifth Summ. 1: 275, 281, 283, & 289 (1971) and 2: 495, 507, & 939. 1971; Moldenke, Phytologia 21: 431 (1971) and 23: 422. 1972.

ERIOCAULON NIPPONICUM Maxim., Diagn. Pl. Nov. Asiat. 8: 9--10. 1893.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.],

263 & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 265 & 266. 1965; Moldenke, Phytologia 21: 431--432. 1971; Satake, Journ. Jap. Bot. 46: 372. 1971; Moldenke, Fifth Summ. 1: 208, 289, 308, & 310 (1971) and 2: 498, 500, 507, & 939. 1971.

ERIOCAULON NIPPONICUM var. *GLABERRIMUM* Satake, Journ. Jap. Bot. 44: 264. 1938.

Additional bibliography: Moldenke, Phytologia 3: 144 (1949) and 18: 356--357. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 498 & 939. 1971.

ERIOCAULON NOSORIENSE Ohwi, Bot. Mag. Tokyo 44: 567. 1930.

Emended synonymy: *Eriocaulon nanellum* var. *nosoriense* (Ohwi) Ohwi & Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 267, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 270. 1965; Moldenke, Phytologia 21: 430 & 432. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 507 & 939. 1971.

ERIOCAULON NOVOGUINEENSE Van Royen, Nov. Guin., ser. 2, 10: 41--42, fig. 5. 1959.

Additional bibliography: Moldenke, Phytologia 21: 432. 1971; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 939. 1971.

ERIOCAULON NUDICUSPE Maxim., Diagn. Pl. Nov. Asiat. 8: 19--20. 1893.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 262, 265--266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 268. 1965; Moldenke, Phytologia 21: 432. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 517 & 939. 1971.

ERIOCAULON NUTANS F. Muell. ex R. Schomb., Fl. S. Austral. 62, nom. nud. 1875.

Bibliography: R. Schomb., Fl. S. Austral. 62. 1875; Moldenke, Phytologia 23: 425. 1972.

Nothing is known to me about this supposed species and I cannot find that it has ever been validly published with a description. It is not listed in the Index Kewensis nor any of its supplements.

ERIOCAULON OBCLAVATUM Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 158--159, fig. 11. 1971.

Bibliography: Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 158--159, fig. 11. 1971; Moldenke, Phytologia 23: 422. 1972.

Illustrations: Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 158, fig. 11. 1971.

Satake (1971) describes the type locality and type collection of the species as follows: "Nepal. Ghorwa-Sanichare, 300--200 m (H. Hara, H. Kanai, S. Kurusawa, G. Murata & M. Togashi, Dec. 10, 1963 -- holotype in TI)", and comments that "This plant is near to *Eriocaulon Duthiei* Hook. f., but differs from it by the sparsely pilose receptacle, involucre bracts longer than the head, acute

female sepals, and linear female petals. The plant resembles very much E. Sieboldianum in appearance, but has three female petals."

ERIOCAULON OBTUSUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 46. 1903.

Additional bibliography: Moldenke, Phytologia 18: 358 (1969) and 19: 102. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 939. 1971.

ERIOCAULON ODASHIMAI Masamune, Trans. Nat. Hist. Soc. Taiwan 33: 26. 1943.

Additional bibliography: Moldenke, Phytologia 18: 358-359. 1969; Moldenke, Fifth Summ. 1: 292 (1971) and 2: 939. 1971.

ERIOCAULON ODORATUM Dalz. in Hook., Journ. Bot. Kew Misc. 3: 280-281. 1851.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 16. 1970; Moldenke, Fifth Summ. 1: 268, 275, 296, & 301 (1971) and 2: 939. 1971.

In addition to months previously reported by me, recent collectors have found this species in flower and fruit in November.

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4694 (Ac).

ERIOCAULON OFFICINALE Körn. in Mart., Fl. Bras. 3 (1): 288, 475, 480, & 508, hyponym. 1863.

Additional bibliography: Moldenke, Phytologia 21: 432. 1971; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 508 & 939. 1971.

ERIOCAULON OLIVACEUM Moldenke, N. Am. Fl. 19: 22. 1937.

Additional bibliography: Moldenke, Phytologia 21: 432. 1971; Moldenke, Fifth Summ. 1: 98 (1971) and 2: 939. 1971.

ERIOCAULON OLIVERI Fyson, Kew Bull. Misc. Inf. 1914: 331. 1914.

Additional bibliography: Moldenke, Phytologia 19: 84 (1969) and 19: 246. 1970; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 939. 1971.

ERIOCAULON OMURANUM Koyama in Ohwi, Fl. Jap., [engl. ed.], 266 & 267. 1965.

Additional bibliography: Moldenke, Phytologia 21: 432. 1971; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 939. 1971.

ERIOCAULON OREADUM Van Royen, Nov. Guin., ser. 2, 10: 34-35, fig. 1 E. 1959.

Additional bibliography: Moldenke, Phytologia 21: 432. 1971; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 494 & 939. 1971.

ERIOCAULON ORYZETORUM Mart. in Wall., Plant. Asiat. Rar. 3: 28. 1832.

Additional bibliography: Mart., Nov. Act. Physico-med. Acad.

Caes. Leopold.-Carol. Nat. Cur. 17 (1): 29. 1835; Fyson, Journ. Indian Bot. 1: 50. 1919; Hansen, Excerpt. Bot. A.12: 520. 1967; Moldenke, Phytologia 20: 16. 1970; Moldenke, Fifth Summ. 1: 270, 271, 275, 283, 296, 301, & 305 (1971) and 2: 939. 1971.

Recent collectors in Nepal describe this plant as having "inflorescences whitish-black" and found it growing in "shady watery places" at 7000 feet altitude.

The Martius (1835) reference in the bibliography of this species is often dated "1833" by authors, but this was the date of its submission as a manuscript; according to J. H. Barnhart it wasn't actually published until 1835.

Additional citations: NEPAL: Shrestha & Upodhyang 620 (W--2582338).

ERIOCAULON OVOIDEUM Britton & Small in Britton, Bull. Torrey Bot. Club 44: 32. 1917.

Additional & emended bibliography: Moldenke, Phytologia 1: 320, 351, & 352 (1939) and 2: 378. 1947; Moldenke, Alph. List Cit. 2: 648. 1948; Moldenke, Phytologia 18: 363. 1969; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 186 & 191. 1969; Moldenke, Fifth Summ. 1: 98 (1971) and 2: 500 & 939. 1971.

ERIOCAULON OZENSE Koyama, Journ. Jap. Bot. 31: 6-7, fig. 1. 1956.

Additional bibliography: Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 270. 1965; Moldenke, Phytologia 18: 363. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 939. 1971.

Koyama (1965) records the vernacular variant "hara-inu-no-hige" for this species and states that the plant is known only from the Sphagnum bogs of Oze Moor in Kodzuke Province on Honshu Island, Japan.

ERIOCAULON PACHYSTROMA Van Royen, Blumea 11: 224-225, fig. 1. 1961.

Additional bibliography: Kramer, Excerpt. Bot. A.11: 163. 1967; Moldenke, Phytologia 18: 363-364. 1969; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970; Moldenke, Fifth Summ. 1: 324 (1971) and 2: 939. 1971.

ERIOCAULON PALLESCENS (Nakai) Satake, Journ. Jap. Bot. 15: 631-632. 1939.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Ohwi, Fl. Jap., [Jap. ed.], 263, 266, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 269. 1965; Moldenke, Phytologia 18: 364-365. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 508, 511, & 939. 1971.

Koyama (1965) records the vernacular variant "shiro-ozo-hoshikusa" for the plant and states that the species is known only from Iburi Province on Hokkaido island, Japan.

ERIOCAULON PALLIDUM R. Br., Prodr. Fl. Nov. Holl., pr. 1, 1: 254. 1810.

Additional bibliography: R. Schomb., Fl. S. Austral. 62. 1875; Moldenke, Phytologia 20: 16. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 939. 1971; Moldenke, Phytologia 23: 425. 1972.

ERIOCAULON PALMERI Ruhl. in Engl., Pflanzenreich 13 (4-30): 48. 1903.

Additional & emended bibliography: Moldenke, Phytologia 1: 320--321, 350, & 360. 1939; Moldenke, Alph. List Cit. 3: 785. 1949; Moldenke, Phytologia 18: 365. 1969; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 939. 1971.

Webster found this plant growing in marshy ground at an elevation of 4500 feet, flowering in June, and describes the flowers as white.

Additional citations: MEXICO: Durango: J. R. Webster 83 (Mi).

ERIOCAULON PALUDICOLA Alv. Silv., Arch. Mus. Nac. Rio Jan. 23: 160. 1921.

Additional bibliography: Moldenke, Phytologia 2: 374 & 378 (1947) and 18: 365. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 940. 1971.

ERIOCAULON PALUSTRE Salzm. ex Steud., Syn. Pl. Glum. 2: [Cyp.] 280. 1855.

Additional bibliography: Moldenke, Phytologia 20: 16 & 94. 1970; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 940. 1971.

ERIOCAULON PANAMENSE Moldenke, N. Am. Fl. 19: 31--32. 1937.

Synonymy: Eriocaulon panamaense Moldenke ex Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 191. 1969.

Additional bibliography: Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 186 & 191. 1969; Moldenke, Phytologia 20: 16. 1970; Moldenke, Fifth Summ. 1: 90 (1971) and 2: 508 & 940. 1971.

ERIOCAULON PANCHERI H. Lecomte ex Guillaum. & Beauvis., Ann. Soc. Bot. Lyon 38: 40. 1914.

Additional bibliography: Moldenke, Phytologia 18: 366--367 (1969) and 19: 28 & 93. 1969; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 171, 172, & 189. 1969; Moldenke, Fifth Summ. 1: 341 (1971) and 2: 940. 1971.

ERIOCAULON PAPILLOSUM Körn. in Mart., Fl. Bras. 3 (1): 489. 1863.

Additional & emended bibliography: Körn. in Mart., Fl. Bras. 3 (1): 489 & 507. 1863; Moldenke, Phytologia 18: 367. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 940. 1971.

ERIOCAULON PAPUANUM Van Royen, Nov. Guin., ser. 2, 10: 37--38, fig. 3 O. 1959.

Additional bibliography: K. U. Kramer, Excerpt. Bot. A.6: 33. 1963; Moldenke, Phytologia 19: 85--86 & 91. 1969; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 940. 1971.

ERIOCAULON PARADOXUM Moldenke, *Phytologia* 2: 133--134. 1948.

Additional bibliography: Moldenke, *Phytologia* 2: 378 (1947) and 19: 349. 1970; Moldenke, *Fifth Summ.* 1: 69 (1971) and 2: 940. 1971.

ERIOCAULON PARAGUAYENSE Körn. in Mart., *Fl. Bras.* 3 (1): 497--498. 1863.

Additional & emended bibliography: Körn. in Mart., *Fl. Bras.* 3 (1): 493, 497--498, & 507. 1863; Malme, *Bih. Svensk. Vet. Akad. Handl.* 27 (3), no. 11: 33. 1901; Moldenke, *Phytologia* 18: 368. 1969; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 940. 1971.

The initial letter of the specific epithet of this taxon is sometimes uppercased.

ERIOCAULON PARANENSE Moldenke, *Phytologia* 3: 166. 1949.

Additional bibliography: Moldenke, *Phytologia* 18: 368. 1969; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 508, 587, & 940. 1971; Moldenke, *Phytologia* 24: 356. 1972.

The Smith & Reitz 9187 collection, cited below, was previously erroneously cited by me as E. dictyophyllum Körn. It was collected at 1000 to 1300 meters altitude, flowering and fruiting in December.

Additional citations: BRAZIL: Santa Catarina: Smith & Reitz 9187 (N, Rf).

ERIOCAULON PARKERI B. L. Robinson, *Rhodora* 5: 175. 1903.

Additional bibliography: Eames in Harger, Graves, Eames, Bissell, Andrews, & Weatherby, *Rhodora* 19: 126. 1917; Woodward, *Rhodora* 21: 116. 1919; Harger, Graves, Eames, Bissell, Andrews, & Weatherby, *Bull. Conn. Geol. & Nat. Hist. Surv.* 48: 35. 1930; Benner, *Fl. Bucks Co.* 116. 1932; Muenscher, *Aquat. Pl. U. S.* 192--194, & 367, fig. 84 E--G, map 206. 1944; Hotchkiss, *Bur. Sports Fish. & Wildlife U. S. Dept. Int. Res. Publ.* 33: [Underw. & Float. Pl.] 25. 1967; Bolkh., Grif, Matvej., & Zakhar., *Chrom. Numb. Flow. Pl.* 274. 1969; Moldenke, *Phytologia* 20: 16. 1970; Donville & Dunbar, *John Burroughs Nat. Hist. Soc. Bull.* 8: 32. 1970; Britton & Br., *Illustr. Fl.*, ed. 2, pr. 5, 1: 454, fig. 1141 (1970) and ed. 2, pr. 5, 3: 575. 1970; Hocking, *Excerpt. Bot. A.* 18: 444. 1971; Moldenke, *Fifth Summ.* 1: 14--22 (1971) and 2: 500, 511, & 940. 1971; Moldenke, *Phytologia* 23: 413. 1972; Hotchkiss, *Common Marsh Underw. & Float. Pl.* [2]: 25. 1972; A. L. Moldenke, *Phytologia* 24: 359. 1972.

Additional illustrations: Muenscher, *Aquat. Pl. U. S.* 193, fig. 84 E--G. 1970; Britton & Br., *Illustr. Fl.*, ed. 2, pr. 5, 1: 454, fig. 1141. 1970.

The Beetle collection cited below was originally distributed as "Lophocarpus spongiosus (Engl.) Sm.", identified by M. L. Ferriald, and is a mixture with a species of Potamogeton.

Harger (1930) records E. parkeri from Fairfield, New Haven, and New London Counties, Connecticut, but describes it as "Rare. Muddy

shores within tidal limits." Hotchkiss (1967) reduces it to synonymy under what he calls E. septangulare With. [the American portion of which is now called E. pellucidum Michx. and the European part now called E. aquaticum (J. Hill) Druce].

Benner (1932) reports that E. parkeri is locally abundant in tidal mud on the shores of the Delaware River, and was collected by B. Long at Tullytown, by W. M. Benner at Bristol, and by S. Brown at Andalusia, in Bucks County, Pennsylvania.

Additional citations: MASSACHUSETTS: Barnstable Co.: Beetle 660, in part (Dt).

ERIOCAULON PARVICAPITULATUM Moldenke, Phytologia 3: 415--416. 1951.

Additional bibliography: Moldenke, Phytologia 18: 371. 1969; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 940. 1971.

ERIOCAULON PARVUM Körn. in Miq., Ann. Mus. Bot. Lugd. Bat. 3: 163. 1867.

Additional bibliography: Moldenke, Phytologia 3: 143 & 144. 1949; Ohwi, Fl. Jap., [Jap. ed.], 262, 264, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 267. 1965; Moldenke, Phytologia 19: 350. 1970; Satake, Journ. Bot. Jap. 46: 373. 1971; Moldenke, Fifth Summ. 1: 308 & 310 (1971) and 2: 508 & 940. 1971.

Koyama (1965) records the vernacular variant "kuro-hoshi-kusa" for this plant and asserts that the plant is only "occasional" on Honshu, Kyushu, and Shikoku and in southern Korea.

ERIOCAULON PECTINATUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 85. 1903.

Additional bibliography: Moldenke, Phytologia 18: 373. 1969; Blasco, Journ. Bombay Nat. Hist. Soc. 67: 525. 1970; Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: 260 & 401. 1971; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 940. 1971.

ERIOCAULON PELLUCIDUM Michx., Fl. Bor. Am. 2: 166. 1803.

Additional & emended bibliography: G. P. Clinton, Rhodora 3: 79--82, fig. 1 & 2. 1901; Harshberger, Veg. N. J. Pine Barrens, pr. 1, 5, 122, 145, 146, 200, 307, & 324. 1916; Benner, Fl. Bucks Co. 115--116. 1932; Muenscher, Aquat. Pl. U. S. 192--195 & 367, fig. 84 H--J & 85 A & B, map 208. 1944; Hausman, Begin. Guide Wild Fls. 4. 1948; R. S. Lamotte, Geol. Soc. Am. Mem. 51: [Cat. Cenoz. Pl. N. Am.] 157. 1952; Hylander, Fls. Field & Forest 54, 55, & 220, fig. 1. 1962; Hotchkiss, Bur. Sports Fish. & Wildlife U. S. Dept. Int. Res. Publ. 44: [Underw. & Float. Pl.] 25. 1967; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 190. 1969; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 274. 1969; Moldenke, Phytologia 20: 16--17. 1970; Mohlenbrock, Illust. Fl. Ill. Flow. Pl. Flow. Rush 249. 1970; Moldenke in Correll & Johnston, Man. Vasc. Pl. Tex. [Contrib. Tex. Res. Found. Bot. 6:] 353, 354, & 1824. 1970; Harshberger, Veg. N. J. Pine Barrens, pr. 2, 5, 122, 145, 146, 200, 307, & 324. 1970; Domville & Dunbar, John Burroughs Nat. Hist. Soc. Bull. 8: 32. 1970; Wise, Rhodora 72: 513. 1970;

Britton & Br., *Illustr. Fl.*, ed. 2, pr. 5, 1: 454, fig. 1140 (1970) and ed. 2, pr. 5, 3: 575 & 625. 1970; Brown & Wherry, *Bartonia* 13: 6. 1971; Hellquist, *Rhodora* 73: 256. 1971; Hocking, *Excerpt. Bot. A.* 18: 444. 1971; Moldenke, *Fifth Summ.* 1: 14—22, 33, 36, 39—41, 310, & 376 (1971) and 2: 494, 495, 509, 511, 517, 523, 548, 764, 765, 792, & 940. 1971; Moldenke, *Phytologia* 23: 413. 1972; Hotchkiss, *Common Marsh Underw. & Float. Pl.* [2:] 25. 1972; Whitehead & Thirumalachar, *Mycologia* 64: 124, 126, & 128, fig. 2. 1972; A. L. Moldenke, *Phytologia* 24: 359. 1972

Additional illustrations: Muenscher, *Aquat. Pl. U. S.* 193 & 195, fig. 84 H—j & 85 A & B. 1944; Hylander, *Fls. Field & Forest* 55, fig. 1. 1962; Hotchkiss, *Bur. Sports Fish. & Wildlife U. S. Dept. Int. Res. Publ.* 44: [Underw. & Float. Pl.] 25. 1967; Britton & Br., *Illustr. Fl.*, ed. 2, pr. 5, 454, fig. 1140. 1970; Hotchkiss, *Common Marsh Underw. & Float. Pl.* [2:] 25. 1972; Whitehead & Thirumalachar, *Mycologia* 64: 126, fig. 2. 1972.

Mohlenbrock (1970) asserts that this species is not definitely known from Illinois, even though Muenscher (1944) records it from that state. Harshberger (1916) comments that in New Jersey submerged forms have well developed leaves about as long as the scapes, other leaves only half as long, while plants growing at the edge of a pond or in a swamp are often only 7.5—10 cm. tall and have leaves 2.5 cm. long. It is often found in association with *Castalia odorata*.

Dreisbach 1722 is described by the collector as being the typical "land form", while Dreisbach 1797 is the "water form" of the species. Brown & Wherry (1971) record the species from Cape May County, New Jersey, while Wise found it on Isle au Haut (in the outermost part of Penobscot Bay, Knox County, Maine). Hotchkiss (1967) calls it the "northern pipewort" and notes that it "Resembles Littorella....with which it often grows; but clumps of Pipewort leaves are not connected by rootstocks, and Pipewort roots are closely crosslined. Resembles the smaller Quillworts [*Isoetes*]....but Pipewort leaves taper conspicuously from a wide base, and their roots are closely crosslined."

Benner (1932) states that the species has been reported from Bristol, Bucks County, Pennsylvania, but there is no herbarium material to substantiate the claim. He states further that there is no material of this species in the herbarium of the Philadelphia Botanical Club "from anywhere in southeastern Pennsylvania".

In regard to the separation of *E. pellucidum* from the European *E. aquaticum* (J. Hill) Druce, the comments of J. R. Beavdry in *Canad. Journ. Gen. & Cyt.* 5: 167 (1963) are worth noting: "It is the opinion of the author that plants which belong to different levels of ploidy are best considered, from a theoretical standpoint, as different species, even if they are morphologically identical, because the difference in the number of chromosomes constitutes a strong enough reproductive barrier to keep the population separate under conditions of sympatry."

Whitehead & Thirumalachar (1972) describe a smut, *Dermatosorus eriocauli* (Clint.) Whitehead & Thirum., from the ovaries of this

species in Massachusetts. The fungus had previously been known as Tolyposporium eriocauli Clint.

Additional citations: NEW JERSEY: Burlington Co.: Dreisbach 1797 [Herb. Dreisbach 1723] (Mi). Cumberland Co.: Dreisbach 1722 [Herb. Dreisbach 1724] (Mi). MINNESOTA: Saint Louis Co.: Moore & Moore 10329 (N).

ERIOCAULON PERPLEXUM Satake & Hara, Bot. Mag. Tokyo 52: 400—401. 1938.

Additional bibliography: Moldenke, Phytologia 2: 493 & 494. 1948; Ohwi, Fl. Jap., [Jap. ed.], 262, 264, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 268. 1965; Moldenke, Phytologia 18: 354 & 387—388. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 507, 508, & 940. 1971.

Koyama (1965) records the vernacular variant "ezo-inu-no-hige" for this plant and states that the species is only "local" in Hidaka Province on Hokkaido island, Japan.

ERIOCAULON PERUVIANUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 58. 1903.

Additional bibliography: J. F. Macbr., Field Mus. Publ. Bot. 13: 491. 1936; Moldenke, Phytologia 18: 388. 1969; Moldenke, Fifth Summ. 1: 140 (1971) and 2: 501 & 940. 1971.

ERIOCAULON PICTUM Fritsch, Bull. Herb. Boiss., sér. 2, 1: 1102—1105. 1901.

Additional & emended bibliography: H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 138—145 & 181, pl. 8, fig. 3, 4, 7, & 8. 1955; Moldenke, Phytologia 19: 351, 458, 459, & 470 (1970) and 20: 283. 1970; Moldenke, Fifth Summ. 1: 243 & 248 (1971) and 2: 493 & 940. 1971.

ERIOCAULON PILGERI Ruhl. in Pilg., Engl. Bot. Jahrb. 30: 147. 1901.

Additional bibliography: Moldenke, Phytologia 18: 391. 1969; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 940. 1971.

ERIOCAULON PILIFLORUM Ruhl. in Engl., Bot. Jahrb. 27: 80. 1899.

Additional bibliography: Moldenke, Phytologia 19: 351 & 472. 1970; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 496 & 940. 1971.

ERIOCAULON PILIPHORUM Satake, Bot. Mag. Tokyo 51: 285—287, fig. 1. 1937.

Additional bibliography: Moldenke, Phytologia 2: 493 & 494. 1948; Ohwi, Fl. Jap., [Jap. ed.], 262, 265, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 268. 1965; Moldenke, Phytologia 19: 87. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 508, 513, 776, & 940. 1971.

Koyama (1965) records the vernacular variant "nagato-hoshikusa" for this species and avers that the plant differs from E. sikokianum Maxim. only in having the "Receptacle pilose; some

flowers with ovary 2-locular and the stigmas 3", and is known only from Nagato Province on Honshu island, Japan.

ERIOCAULON PILOSISSIMUM Van Royen, *Blumea* 10: 134--135, fig. 1 G. 1960.

Additional bibliography: K. U. Kramer, *Excerpt. Bot. A.*6: 33. 1963; Moldenke, *Phytologia* 19: 87. 1969; Moldenke, *Fifth Summ.* 1: 324 (1971) and 2: 940. 1971.

ERIOCAULON PINARENSE Ruhl. in Fedde, *Repert. Spec. Nov.* 22: 32. 1925.

Additional & emended bibliography: Moldenke, *Phytologia* 1: 321--322, 351, 353, & 355 (1939) and 19: 410. 1970; Moldenke, *Fifth Summ.* 1: 96 & 99 (1971) and 2: 940. 1971.

ERIOCAULON PLUMALE N. E. Br. in Thiselt.-Dyer, *Fl. Trop. Afr.* 8: 251. 1901.

Additional bibliography: Gledhill, *Check List Flow. Pl. Sierra Leone* 31, 1962; Moldenke, *Phytologia* 19: 88 (1969) and 20: 17 & 268. 1970; C. C. Townsend, *Excerpt. Bot. A.*15: 418. 1970; Moldenke, *Fifth Summ.* 1: 210, 214, 216, & 218 (1971) and 2: 502, 511, & 940. 1971.

ERIOCAULON PLUMALE subsp. *JAEGERI* (Moldenke) Meikle, *Kew Bull.* 22: 142. 1968.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 11. 1965; Moldenke, *Phytologia* 19: 88 (1969) and 20: 268. 1970; G. Taylor, *Ind. Kew. Suppl.* 14: 86. 1970; C. C. Townsend, *Excerpt. Bot. A.*15: 418. 1970; Moldenke, *Fifth Summ.* 1: 216 (1971) and 2: 503, 571, & 940. 1971.

ERIOCAULON PLUMALE subsp. *KINDIAE* (H. Lecomte) Meike, *Kew Bull.* 22: 142. 1968.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 11. 1965; Moldenke, *Phytologia* 20: 17 & 268. 1970; G. Taylor, *Ind. Kew. Suppl.* 14: 86. 1970; C. C. Townsend, *Excerpt. Bot. A.*15: 418. 1970; Moldenke, *Fifth Summ.* 1: 216 (1971) and 2: 504, 571, & 940. 1971.

ERIOCAULON PLUMBEUM Colla, *Herb. Pedem.* 5: 484. 1836.

Additional bibliography: Moldenke, *Phytologia* 18: 393. 1969; Moldenke, *Fifth Summ.* 1: 150 (1971) and 2: 940. 1971.

ERIOCAULON POILANEI Moldenke, *Phytologia* 3: 310. 1950.

Additional bibliography: Moldenke, *Phytologia* 18: 395. 1969; Moldenke, *Fifth Summ.* 1: 301 (1971) and 2: 940. 1971.

ERIOCAULON POLUENSE Wang & Tang, *Contrib. Inst. Bot. Nat. Acad. Peiping* 2: 133. 1934.

Additional bibliography: Moldenke, *Phytologia* 18: 395. 1969; Moldenke, *Fifth Summ.* 1: 289 (1971) and 2: 940. 1971.

ERIOCAULON POLYCEPHALUM Hook. f., Fl. Brit. India 6: 573. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Santapau, Excerpt. Bot. A.11: 176. 1967; Moldenke, Phytologia 19: 351. 1970; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 504, 505, & 940. 1971; Moldenke, Phytologia 23: 422 & 424. 1972.

Ellis and his associates (1967) collected this species at 950 meters altitude. Saldanha and his associates describe it as "common herbs to 50 cm. tall, the heads large, in moist rice fields after the harvest" and "on moist sand in semi-evergreen forests in full sun". They found it flowering and fruiting in January and May. Charoenphol and his associates found it growing in evergreen forests in Thailand, flowering and fruiting in October.

Additional citations: INDIA: Mysore: Nicholson, Saldanha, & Ramamoorthy HFP.39 (W); Saldanha 12242 (W). THAILAND: Charoenphol, Larsen, & Warncke 4237 (Ac), 4802 (Ac).

ERIOCAULON ? POROSUM Lesq., U. S. Geol. & Geogr. Surv. Terr. Ann. Rep. 7: 396. 1874.

Additional bibliography: Moldenke, Phytologia 2: 377 (1947) and 18: 422--424. 1969; Moldenke, Biol. Abstr. 51: 459. 1970; Hocking, Excerpt. Bot. A.18: 444 (1971) and A.19: 42. 1971; Moldenke, Fifth Summ. 1: 376 (1971) and 2: 940. 1971.

ERIOCAULON PRINGLEI S. Wats., Proc. Am. Acad. 23: 283. 1888.

Additional & emended bibliography: Moldenke, Phytologia 1: 322, 350, & 360 (1939) and 19: 410. 1970; Hocking, Excerpt. Bot. A.19: 43. 1971; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 940. 1971.

ERIOCAULON PSEUDOCOMPRESSUM Ruhl. in Urb., Symb. Ant. 1: 492. 1900.

Additional & emended bibliography: Moldenke, Phytologia 1: 322, 351, 354, 355, & 363 (1939) and 19: 330 & 351. 1970; Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Fifth Summ. 1: 96 (1971) and 2: 501 & 940. 1971.

ERIOCAULON PSEUDOQUINQUANGULARE Ruhl. in Engl., Pflanzenreich 13 (4-30): 73. 1903.

Additional bibliography: Moldenke, Phytologia 19: 410. 1970; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 509 & 940. 1971.

ERIOCAULON PUBIGERUM Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 628. 1831.

Additional bibliography: Moldenke, Phytologia 20: 17. 1970; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 940. 1971.

ERIOCAULON PULCHELLUM Körn., Linnaea 27: 622--624. 1856.

Additional bibliography: Gledhill, Check List Flow. Pl. Sierra Leone 31. 1962; Moldenke, Phytologia 20: 17. 1970; Moldenke, Fifth Summ. 1: 214, 218, & 219 (1971) and 2: 509, 513, & 940. 1971.

Jaeger found this plant growing at 1600 meters altitude.

Additional citations: SIERRA LEONE: Jaeger 9425 (Id).

ERIOCAULON PULLUM Koyama, Journ. Jap. Bot. 31: 11--12, fig. 4. 1956.

Additional bibliography: Moldenke, Phytologia 18: 426--427. 1969; Moldenke, Fifth Summ. 1: 289 (1971) and 2: 940. 1971.

ERIOCAULON PULVINATUM Van Royen, Nov. Guin., ser. 2, 10: 32--33, fig. 3 P. 1959.

Additional bibliography: K. U. Kramer, Excerpt. Bot. A.6: 33. 1963; Moldenke, Phytologia 19: 410 & 481. 1970; G. Taylor, Ind. Kew. Suppl. 11: 54. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 940. 1971.

ERIOCAULON PUMILIO Hook. f., Fl. Brit. India 6: 581--582. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 18: 427. 1969; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 940. 1971.

ERIOCAULON PUSILLUM R. Br., Prodr. Fl. Nov. Holl., pr. 1, 1: 254--255. 1810.

Additional bibliography: Moldenke, Phytologia 20: 17. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 940. 1971.

ERIOCAULON PYGMAEUM Soland. ex J. E. Sm. in Rees, Cycl. 13: Eriocaulon. 1809.

Additional bibliography: Moldenke, Phytologia 20: 17, 27, 413, 414, & 417. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 507 & 940. 1971.

ERIOCAULON QUINQUANGULARE L., Sp. Pl., ed. 1, pr. 1, 1: 87. 1753.

Additional synonymy: Eriocaulon quinquangulare Raeusch., Nom. Bot. 30. 1797. Eriocaulon quinquangulare L. apud Majumdar, Bull. Bot. Soc. Bengal 19: 15, sphalm. 1965.

Additional bibliography: J. F. Gmel. in L., Syst. Nat., ed. 13, 2: 206. 1791; Pers., Sp. Pl. 1: 284. 1817; Mart., Nov. Act. Physico-med. Acad. Caes. Leopold.-Carol. Nat. Cur. 17 (1): 24 & 29. 1835; Fyson, Journ. Indian Bot. 1: 50--53, fig. 1 & 2. 1919; Majumdar, Bull. Bot. Soc. Bengal 19: 15. 1965; Ramaswamy, Bull. Bot. Soc. Bengal 21: 89 & 90. 1967; Santapau, Excerpt. Bot. A.11: 176. 1967; Rao & Kumari, Bull. Bot. Surv. India 9: 110 & 189. 1967; Ellis, Swaminathan, & Chandrabose, Bull. Bot. Surv. India 9: 3. 1967; Shah & Suryanarayana, Bull. Bot. Surv. India 11: 298. 1969; Gausson, Legris, Blasco, Meher-Homji, & Troy, Trav. Sec. Scient. & Techn. Inst. Franç. Pond., Hor. ser., 10: 82 & 128. 1970; Moldenke, Phytologia 20: 15, 18, 20, 23, & 357 (1970) and 21: 429. 1971; Balapure, Journ. Bomb. Nat. Hist. Soc. 68: 365 & 374. 1971; Moldenke, Fifth Summ. 1: 218, 265, 268, 275, 281, 283, 296, 301, & 346 (1971) and 2: 492--494, 497, 500, 504, 508--512, 515, 517, 525, 533, 548, 616, 619, 623, 767, 792, & 940. 1971.

Additional illustrations: Fyson, Journ. Indian Bot. 1: 51, fig. 1 & 2. 1919.

The Martius (1835) reference in the bibliography of this spe-

cies is often cited as "1833", the date of its submission to the Academy for publication, but according to Dr. J. H. Barnhart it was not actually published until 1835.

Fyson (1919) intimates that his fig. 2 illustrates E. leucomas Steud. (called E. geoffreyi by him), but its legend plainly states that it is meant to represent E. quinquangulare L.

In Ceylon E. quinquangulare was found by Koyama to be "locally abundant in wet sand around tree islands in periodically flooded pond margins", at 192 meters altitude, flowering and fruiting in March. Sebastine & Vivekananthan (1967) refer to it as "common" at 1675 m. altitude in Kerala, flowering there in October, and Rao & Kumari (1967) refer to it also as "common" in Andhra Pradesh, flowering in December. In Madras it was found by Sebastine & Ellis (1967) "near beach", flowering in January. Ellis and his associates (1967) encountered it "in portion of forest cleared for rice cultivation". Balapure (1971) found it in the hill forests of Maharashtra and cites Balapure 70631.

Ramaswamy (1967) tells us that the species is "prominent" from September to November in Savandurga, inhabiting "marshy slopes and tank edges" there, citing his no. 269. Majumdar (1965) says that it blooms from October to February. Datta & Majumdar (1966) describe it as a "Perennial herb of wet places and rice-fields. Leaves reddish, semi-translucent. Heads globose, snow-like. Receptacle villous. Floral bracts densely hairy, acuminate..... Distributed in the tropics." Shah & Soryanarayana (1969) report it as common in moist but drying cultivated fields in Gujarat. In Mysore it has been found growing "in wet flush on granite hills", flowering and fruiting in November.

Material has been misidentified and distributed in some herbaria under the name E. luzulaeifolium Mart.

Additional citations: INDIA: Mysore: Cook & Gut 171 (Rf). CEYLON: Koyama 13315 (N).

ERIOCAULON QUINQUANGULARE var. MARTIANUM Wall. ex Fyson, Journ. Indian Bot. 2: 204 [as "martiana"]. 1921.

Additional synonymy: Eriocaulon quinquangulare var. martiana Fyson, Journ. Indian Bot. 1: 52, hyponym. 1919.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 52. 1919; Moldenke, Phytologia 20: 18. 1970; Moldenke, Fifth Summ. 1: 283 (1971) and 2: 505, 510, & 940. 1971.

ERIOCAULON RAVENELII Chapm., Fl. South. U. S., ed. 1, pr. 1, 503. 1860.

Additional bibliography: Muenscher, Aquat. Pl. U. S. 192, 194, & 367, map 207. 1944; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 149, 161, 162, & 190. 1969; Moldenke, Phytologia 20: 18, 41, 48, 50, & 52. 1970; Long & Lakela, Fl. Trop. Fla. 259--261 & 938, fig. 38. 1971; Moldenke, Fifth Summ. 1: 24 & 28 (1971) and 2: 510 & 940. 1971.

Additional illustrations: Long & Lakela, Fl. Trop. Fla. 261, fig. 38. 1971.

ERIOCAULON RECURVIFOLIUM C. H. Wright, Kew Bull. Misc. Inf. 1919: 264. 1919.

Additional bibliography: Moldenke, Phytologia 18: 437--438. 1969; Moldenke, Fifth Summ. 1: 230 (1971) and 2: 941. 1971.

ERIOCAULON REDACTUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 113--114. 1903.

Additional & emended bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 13, 104, 113--114, & 287. 1903; Moldenke, Phytologia 19: 411. 1970; Moldenke, Fifth Summ. 1: 275 & 296 (1971) and 2: 499 & 941. 1971.

ERIOCAULON REGNELLII Moldenke, Phytologia 3: 35--36. 1948.

Additional bibliography: Moldenke, Phytologia 3: 80 (1949) and 19: 411. 1970; Moldenke, Fifth Summ. 1: 150 (1971) and 2: 941. 1971.

ERIOCAULON REMOTUM H. Lecomte, Bull. Soc. Bot. France 55: 643. 1909.

Additional bibliography: Gledhill, Check List Flow. Pl. Sierra Leone 31. 1962; Moldenke, Phytologia 19: 411. 1970; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Moldenke, Fifth Summ. 1: 216 & 218 (1971) and 2: 941. 1971.

ERIOCAULON RICHARDI Körn.

This binomial is now reduced to synonymy under E. abyssinicum Hochst.

ERIOCAULON RITCHIEANUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 1903.

Additional & emended bibliography: Fyson, Journ. Indian Bot. 1: 51--53, fig. 9. 1919; Billore & Hemadri, Bull. Bot. Surv. India 11: 345. 1969; Moldenke, Phytologia 19: 90 & 100. 1969; Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 67: 134--135, fig. 1--8. 1970; Moldenke, Fifth Summ. 1: 275 (1971) and 2: 503 & 941. 1971.

Additional illustrations: Kulkarni & Desai, Journ. Bombay. Nat. Hist. Soc. 67: betw. 134 & 135, fig. 1--8. 1970.

Kulkarni & Desai (1970) describe and illustrate tubers produced by this species and comment that the "Tuberiferous habit has not been reported in any member of the Eriocaulaceae so far". They found the tuberiferous habit characteristic of all the individual plants of this species observed by them in two separate localities in the Kolhapur District of Maharashtra, India. They tell us that the "Dried tubers germinate readily in a petridish with a thin layer of moist soil. The plants attain maturity within 45 to 60 days." Billore & Hemadri (1969) found the species on hillslopes and plateaus at Kedarnath, citing their nos. 115510 & 115933.

ERIOCAULON ROBINSONII Moldenke, Phytologia 2: 220. 1947.

Additional & emended bibliography: Moldenke, Phytologia 2: 220, 376, & 379 (1947) and 19: 412. 1970; Moldenke, Fifth Summ. 1: 301

(1971) and 2: 941. 1971.

ERIOCAULON ROBUSTIUS (Maxim.) Mak., Journ. Jap. Bot. 3: 26 [as "robustum"]. 1926.

Additional bibliography: Ohwi, Fl. Jap., [Jap. ed.], 262, 265, & 1296. 1953; Koyama in Ohwi, Fl. Jap. [Engl. ed.], 266 & 268. 1965; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 191. 1969; Moldenke, Phytologia 20: 18. 1970; Moldenke, Fifth Summ. 1: 208, 289, 308, 310, & 312 (1971) and 2: 492, 493, 495, 510, & 941. 1971; Moldenke, Phytologia 24: 343 & 344. 1972.

Koyama (1965) records the vernacular variant "hiroha-imu-no-hige" for this species and states that the plant is "quite common" in wet places and paddy fields in the lowlands of Hokkaido, Honshu, Shikoku, Kyushu, Korea, Manchuria, and eastern Siberia.

Additional citations: JAPAN: Honshu: Tagawa s.n. [29.IX.1931] (W--2409633).

ERIOCAULON ROBUSTIUS var. NIGRUM Satake, Journ. Jap. Bot. 27: 268. 1952.

Additional bibliography: Koyama in Ohwi, Fl. Jap., [Engl. ed.], 268. 1965; Moldenke, Phytologia 18: 441 & 442. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 493 & 941. 1971.

Koyama (1965) records the vernacular name "kuro-hiroha-imu-no-hige" for this plant and states that it differs from the typical form of the species only in having the "floral bracts and calyx dark-brown, relatively small, otherwise almost as in the typical variety, endemic to Honshu island."

ERIOCAULON ROBUSTIUS var. PERPUSILLUS (Nakai) Satake, Journ. Jap. Bot. 15: 629. 1939.

Additional synonymy: Eriocaulon robustius f. perpusillum (Nakai) Satake ex Koyama in Ohwi, Fl. Jap., [Engl. ed.], 268. 1965.

Additional bibliography: Moldenke, Phytologia 2: 377 (1947) and 3: 144. 1949; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 268. 1965; Moldenke, Phytologia 18: 442--443. 1969; Moldenke, Fifth Summ. 1: 310 (1971) and 2: 493, 510, & 941. 1971.

Koyama (1965) records the vernacular name "chabo-imu-no-hige" for this variety and avers that the plant is merely "a dwarf form" of E. robustius (Maxim.) Mak. He does not indicate its geographic distribution.

ERIOCAULON ROBUSTO-BROWNIANUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 77. 1903.

Additional synonymy: Eriocaulon robustobrownianum Ruhl. ex Fyson, Journ. Indian Bot. 1: 50. 1919.

Additional bibliography: Moldenke, Phytologia 2: 379. 1947; Hansen, Excerpt. Bot. A.12: 520. 1967; Das & Mukerjee, Bull. Bot. Soc. Bengal 23: [185]. 1969; Moldenke, Phytologia 19: 412, 490, & 491. 1970; Moldenke, Fifth Summ. 1: 275, 283, & 296 (1971) and 2: 507, 510, 516, & 941. 1971.

[to be continued]